

REVIEW OF THE YEAR'S WORK	PAGE 1
<u>CHAPTER 1</u>	
INTRODUCTION	PAGE 5
<u>CHAPTER 2</u>	
COMMUNICABLE DISEASES	PAGE 8
TUBERCULOSIS	PAGE 8
MALARIA	PAGE 32
LEPROSY	PAGE 40
BILHARZIA	PAGE 41
<u>CHAPTER 3</u>	
LABORATORY SERVICES	PAGE 42
<u>CHAPTER 4</u>	
PUBLIC HEALTH UNIT	PAGE 44
<u>CHAPTER 5</u>	
ENVIRONMENTAL HEALTH SERVICES	PAGE 49
<u>CHAPTER 6</u>	
PRISONS	PAGE 72
<u>CHAPTER 7</u>	
CENTRAL MEDICAL STORES	PA GE 73
<u>CHAPTER 8</u>	
MENTAL HOSPITAL	PAGE 74
<u>CHAPTER 9</u>	
HAVELOCK MINE HOSPITAL	PAGE 75
<u>CHAPTER 10</u>	
MEDICAL LEGAL WORK	PAGE 76
<u>CHAPTER 11</u>	
SUBSIDISED HOSPITALS	PAGE 77
RALEIGH FITKIN MEMORIAL HOSPITAL	PAGE 77
GOOD SHEPHERD HOSPITAL	PAGE 81
<u>CHAPTER 12</u>	
DISEASE STATISTICS	PAGE 84
<u>CHAPTER 13</u>	
STAFF	PAGE 90



## REVIEW OF THE YEAR'S WORK

Another year of concentrated efforts to improve the level of health of the peoples of Swaziland, has passed. A year in which the maximum utilisation of resources has been enforced in order to achieve much with little.

The technique used is that of intergrating our preventive, public health, and Maternal Child Health Services into one basic health service, where the personell employed in the discharge of Medical Services, is used as a multi-purpose individual to cover all the important facets of the medical field. This is necessary in a developing country such as ours where we are faced with, and shall indeed continue to have a shortage of Doctors and paramedical staff for quite a number of years.

What has been achieved can be attributed to the dedication of the Doctors and nurses, who, motivated by the desire to achieve a reasonable level of health for their fellowmen have worked selflessly, untiringly at times under trying conditions.

I wish to thank the staff for their co-operation in making it possible for us to have realised some of our objectives. There is satisfaction in knowing that communicable diseases, such as small pox, have been eradicated and others such as malaria, are no longer the health hazard they were some years ago. Infectious diseases too, are much reduced. There is still much to be done and we shall continue to fight as a team to eradicate what is possible to do so and prevent both the old and the new man-made hazards that face the world.

STAFF: The year 1972 heralded many staff changes in the Ministry of Health. After the general elections in May, Dr. P.S.P. Dlamini was nominated as the Minister for Health and Education, Mr. Elias Dhladhla being appointed as the Minister of State for Health and Education.

In June, Mr. Nkomeni Douglas Ntiwane was transferred from the Department of Foreign Affairs as Permanent Secretary to the Ministry of Health. Dr. F. Friedman was seconded to localise the post of Chief Medical Officer in the Ministry to replace Dr. J. Klopper.

The Senior Medical Officer of Health, Dr. G.G. Murphy left in November, 1972 on completion of his contract and was replaced by Dr. Michael Z. Dlamini who was in charge of the Hlatikulu Hospital.

The shortage of doctors as usual has been one of our major concerns. During the year - two short term WHO Consultants in Malaria, were requested to review and evaluate the Malaria situation and serveillance measures in Swaziland. There was great concern over the out-break of malaria in the country, after the exsessive rainfall experienced in Swaziland. However, early effective antimalarial measures were introduced and the spread of the disease was effectively halted and there was no cause for alarm.





We continue to be grateful to the Anglo-American Organisations for their sponsorship of the visiting Specialists more commonly known as the "Harry's Angels". We are indebted to this panel of Specialists for bringing a service to our people which would otherwise be denied to them.

The Ministry of Health had occasion to celebrate the National BCG Vaccination against TB after 5 years concentrated preventative attack against this disease. The untiring efforts of the staff of the T.B. Unit and particularly the field workers must be commended. The programme has now entered the maintenance phase.

TRAINING: Training programmes are being intensified to meet the perpetual shortage in medical and paramedical personell. Post-graduate training nurses in various spheres which include Hospital and Ward Administration, Paediatrics, Orthopaedics, Theatre Techniques, are some of the training courses attended by nurses.

Laboratory courses in Malaria and laboratory diagnostic procedures have been attended by staff manning these Units.

#### HOSPITALS & CLINICS:

Renovations and expansions continue on the lines indicated in the 1971 Annual Report to consolidate existing services and supply services where none are existent as far as is possible with the financial means available to us.

Thus improvements have been effected at Mankayane Hospital where a new out-patient wing has been added. Pigg's Peak Hospital Theatre is / completed and new dispensary, doctors offices and almost laboratory facilities are under construction. Mbabane Hospital has been renovated and new plans for expansion are being discussed.

For Hlatikulu, approval has been given for a new Nurses' Home. R10,000 has been donated by the Korean Government for the construction of a ward. Clinics continue to be erected. Mhlangatane and the Nkwene Clinics are in the process of being built. Plans are in hand for Ntfontjeni, Siteki Public Health Centre, Mbulwani, and a Clinic in Lubombo District. Building will commence in the new year.

#### THE NATIONAL BLOOD TRANSFUSION SERVICE:

Difficulties have been experienced with this field, mainly due to lack of adequate personell to man this Unit. However, we are comforted by the fact that lives have been saved through the availability of blood collected and distributed through this Unit. 2,050 pints of blood were collected for use by the hospitals throughout the country.

MOBILE EYE CLINIC: This Unit suffered a great loss with the departures towards the end of the year, of Dr. Lee - Ophthalmologist, and Miss cleaver - both Peace Corps Volunteers, at a time when Staff Nurse Sarah Dlamini was due to be away in Tanzania, undergoing training in the detection and treatment of eye diseases both in hospitals and particularly in the field.





This is an invaluable Unit amongst the services of which, sight has been restored to many, who had regarded themselves as doomed to sightlessness for life.

REPORT:

CONFERENCES: Several conferences were attended by staff of the Ministry of Health. In August, the Chief Medical Officer attended the Twelfth World Rehabilitation Congress in Sydney, Australia. The Minister for Health and Education accompanied by the Chief Medical Officer, attended a Regional Meeting for East, Central and Southern Africa in Lusaka. The countries represented were Uganda, Kenya, Tanzania, Malawi, Zambia, Mauritius, Botswana and Swaziland. The theme of the conference was Regional co-operation in the Medical Field viz. Training, Specialist facilities, research, under and post-graduate studies etc.

AIRPORT CRASH: Action Committee continues to be active and has had several practice runs in case of an aircraft disaster. All persons involved in this programme, are now well versed in the activities required of them.

ROAD ACCIDENTS: Continue to demand a large percentage of the time and services of the medical personell and hospital facilities. There were 77 fatal accidents out of a total of 1,396 accidents.

NUTRITION COUNCIL:

This council which remained inactive for some time, has been re-activated and newly motivated to concern itself with the nutritional status of the country, and all matters related thereto. Several teams from International Organisations such as FAO, World Food Programme, have held discussions with the committee and made sound recommendations.

WORLD FOOD PROGRAMME UNIT: This Unit has been transferred from the Ministry of Industries, Mines and Tourism, to the Ministry of Health. It is responsible for the distribution of food donated by the World Food Programme.

Apart from institutional feeding, the vulnerable groups of expectant mothers, and pre-school children and under fives who are being assisted are reached through clinics and schools. A team headed by the Director of this Programme, Mr. Acquino, visited Swaziland from their Headquarters in Rome. A request for extension of the programme which expired this year, was put to him and granted. The staff of the UNDP Offices play a major role in the implementation of this programme and we thank them.

Several officials from various countries have visited the Ministry for different reasons. There have been offers of assistance, evaluation teams, and follow ups on aided projects. Amongst such visitors was Dr. Hitschmanova of the Unitarian Service Committee of Canada whose organisation donated tons of powdered milk for distribution to the under fives and pre-school children.

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Subsequent sections in this report indicate the attendances at various hospitals and clinics. It will be noted that figures are on the increase. We interpret this as an index of acceptability of the services by the people, especially in the rural area.



(DR. F. FRIEDMAN)

Chief Medical Officer.

M.B.E., MBCHB. (CAPE TOWN.)



I N T R O D U C T I O N

Swaziland has an area of 17,400 square kilometers and is bordered on the north, west and south by the Transvaal, and on the east by Mocambique and Zululand.

The country is geographically divided into four well defined regions, running from north to south, namely the mountainous highveld in the west with an altitude of 3,500 to 5,000 feet, the middleveld with an average altitude of 2,000 feet; and the lowveld or bushveld with an altitude of 1,000 to 300 feet; and the Lubombo Plateau on the east, with an altitude of 2,000 feet. Scenically the country is one of the more attractive parts of Africa. The highveld has a temperate climate and frosts occur during winter. The climate of the middleveld is subtropical, although every few years a frost does occur.

Rainfall, which occurs chiefly in the summer, varies between approximately 30" and 50" a year. Drizzle and mists are frequent in the highveld areas. The country is well watered by numerous perennial streams and rivers, some of which are of a considerable size and now provide water for three large irrigation schemes, which have been established at Mhlume in the north-east, at Big Bend in the east (at both of which sugar is grown) and at Malkerns in the centre of Swaziland (which produces rice, subtropical fruit and citrus).

In addition to the irrigation schemes, other important agricultural activities are cattle ranching and seed cotton production in the bushveld and sub-tropical fruit, maize and rice production in the middleveld, in the southern portion of which a considerable amount of tobacco is also grown. In the mining field, Havelock Mine in the north-west is a most important producer of asbestos, and with the opening of the railway in November, 1964 connecting Swaziland with Lourenco Marques, the mining of iron ore at Ngwenya and of coal at Mpaka got underway. A pulp mill and sawmill are operating at two of the forestry concerns in the highveld. Cotton ginnery, meat canning factory and breweries now operate at Matsapha Industrial Area.

A little more than half of the area of the country is in communal ownership of the Swazi Nation and the remainder is owned by individual tenure farmers. The Swazi have the exclusive use of the communal tenure areas and the remainder is open to farmers of all races without discrimination. Swazi dwellings for the most part consist of wattle-and-daub structures, or bee-hive huts, and small family collections of these huts are widely dispersed. Other than in the neighbourhood of the larger towns, there are no villages. Whilst concentrated on the raising of cattle and goats and the cultivation of maize, the work of the Ministry of Agriculture is now producing results, and both the standard and scope of Swazi farming are improving year by year.





POPULATION:

A census of the total population was held in May 1966. At the time the population was 374,571, the crude birth rate was estimated at 47 - 48 per thousand and the crude death rate, at 20 - 21 per thousand. The rate of population growth at 2.7%. By projection, it is estimated that the population in 1972 is 480,000. The population density is 67 per square mile.

DOCTORS: There are 66 Doctors registered with the Swaziland Medical and Dental Council, of whom 52 are practising. The distribution is as follows:-

Government	20
Mission	8
Industry	12
Private	12

Of the Government doctors there are two surgeons, 1 Paediatrician, 1 Ear, Nose and Throat Specialist, and 1 Specialist Physician. The resident Peace Corps doctor assists at the Mbabane Government Hospital on a part-time basis

DENTISTS:

Six are registered with the Council, but only one is in Government employ.

PHARMACISTS:

Of the 8 registered Pharmacists, 2 are in Government Service the rest being privately employed.

NURSES:

Swaziland has 580 qualified nurses. Government employs a total of 231 (excluding Sisters and Matrons) 13 of whom are exclusively concerned with Maternal and Child Health activities, Health Education, Nutrition, Family Planning, early detection of cancer of the womb and environmental health.

All clinics are staffed by doubly qualified nurses who are orientated in Maternal Child Health and Public Health Measures.

NURSES TRAINING SCHOOL:

There is only one training school for nurses in Swaziland. This is at the Ainsworth Dickson School and is attached to the Raleigh Fitkin Memorial Hospital in Manzini. This school is subsidised by Government, and produces sufficient nurses for Swaziland's needs, in general nursing and midwifery. Higher qualifications of specialities in nursing are undertaken outside the country.

SPECIAL DEPARTMENTS WITHIN THE MINISTRY OF HEALTH:

- (a) National T.B. Control Centre and Small Pox eradication.
- (b) Malaria and Bilharzia Unit.
- (c) Public Health Centres for Maternal and Child Health and preventative public health measures and family planning.
- (d) Central Diagnostic Laboratory.
- (e) Mobile Eye Clinic.
- (f) Blood Transfusion Service.
- (g) Central Medical Stores.



Although these are listed as above, there is in fact intergration of these activities into the basic health services.

COUNCILS AND ASSOCIATIONS:

1. Medical and Dental Council
2. Nursing Council.
3. Nurses Examination Board for Botswana, Lesotho and Swaziland.
4. Swaziland Medical and Dental Association.
5. Swaziland Nursing Association.
6. Swaziland Pharmaceutical Association.

All these bodies deal with the qualifications, standards, registration and discipline of the professions.

LOCAL TRAINING:

1. Nurses at Ainsworth Dickson School.
2. Inservice training of (a) Dispensers at the Central Medical Stores.  
(b) Laboratory Assistants, at the Central Laboratory.
3. Training of Nurse Aids at the Good Shepherd Hospital Siteki.





COMMUNICABLE DISEASES  
SMALLPOX AND TUBERCULOSIS

No cases of Smallpox were reported in Swaziland in 1972. Smallpox surveillance is carried out by the various health agencies in the country. Where there is doubt on the part of health agencies, patients with rashes suspicious of smallpox are checked by experienced public health personnel.

Smallpox vaccination is widely practiced in the country but is not comprehensively reported. Since to a large extent, smallpox vaccination is given simultaneously with B.C.G., it is convenient to discuss them together.

Most smallpox vaccinations are not carried out using the bifurcated needle and "multiple puncture" technique which is recommended by the World Health Organisation, small pox vaccination is administered to persons over 3 months of age.

B.C.G. is given by intradermal injections from birth to 15 years of age.

Since September 1967 a mobile B.C.G. and smallpox Vaccinating Team has been moving from school to school around the country, vaccinating not only school children but also non-school going children and adults who live in the vicinity of the schools.

During 1972 the team completed the first "Mass" Vaccination Programme ever undertaken in our country. Hhohho District was the last District in which the team worked. Vaccinations carried out by the team in this district between January and June 1972 are set out in Table 1. (Vaccinations carried out in Hhohho district by the team in 1971 were reported in the 1971 Annual Medical & Sanitary Report).

Table 2 records the number of B.C.G. and Smallpox vaccinations carried out in Hhohho District and the coverage of the eligible population during 1971-72 while the team was in the district, and also includes vaccinations done by other health agencies.

The coverage of the eligible population in the age group 0 - 4 years with B.C.G. (51%) was the best achieved in any of the four districts. Coverage of the same population with Smallpox vaccination was somewhat lower than than achieved in the other districts. (See Table 3). The coverage of the eligible population in the age group 5 - 15 in Hhohho with B.C.G. and Smallpox vaccination was higher than that achieved in Lubombo and Shiselweni Districts but lower than that achieved in Manzini district (See Table 4.)

The reason for the low coverage apparently achieved with B.C.G. in the age group 15 years and over is that only 15 year olds vaccinated with B.C.G. The coverage with Smallpox vaccination in the age group 15 years and over was not very satisfactory. The reason may be that we failed to communicate the need for vaccination to enough adults themselves even though we could persuade a number of them to bring their children for vaccination.

Tables 3, 4 and 5 set out the coverage of the eligible population achieved in the three age groups by year and District. Coverages lie within a narrow range with few exceptions. The Lubombo District coverage in the age group 5 - 14, for both B.C.G. and Smallpox vaccination, was poor. The reason for this may have been of our making; we omitted to take into our confidence the traditional authorities of the people, i.e. the Chiefs. The mistake was remedied late in 1969 and in the following years the coverage improved.

Since the start of the "Mass Vaccination Programme" most vaccinations have in fact been carried out by the Mobile Vaccinating Team (See Table 12) This position will persist until the "Maintenance" Vaccination Programme has been adequately developed.

In the last half of 1972 the team recommenced vaccination in Manzini District (See Table 6). This time they moved more rapidly through the District, spending only one day at each school, whereas they had spent





2 days on the first occasion. Vaccination in Manzini District should be completed for the second time by mid-1973.

In the "Maintenance" Vaccination Programme it is hoped that ultimately all Nurses in charge of clinics will carry out regular B.C.G. and Smallpox Vaccination at their clinics and at nearby schools, leaving the Mobile Team to vaccinate at the schools and populated areas far removed from the clinics. To this end, in-service training of these Nurses is proceeding but with the prevailing facilities this will take a great deal of time.

During 1972 the number of people receiving B.C.G. and Smallpox Vaccination at various health agencies (Maintenance Vaccination Programme) increased compared to 1971. (See Table 6, 7, 8, 9). The increase (apart from Manzini District) was of the order of 148% (B.C.G.) and 61% (Smallpox Vaccination) in Shiselweni District; 94% (B.C.G.) and 39% (Smallpox) vaccinations in Lubombo District; less than 1% (B.C.G.) and 7% (Smallpox Vacc.) in Hhohho District.

From Table 10 it will be seen that less B.C.G. Vaccinations were carried out than in 1971 (31,326). This was due to the smaller number of vaccinations done by the Mobile Team compared to that done in 1971 (26,680) and was an expected outcome because by mid-1972 the eligible population in the country was "covered" with B.C.G. Vaccination.

On the other hand the total number of Smallpox vaccination increased during 1972 by 10,182. The reasons were, firstly, somewhat better reporting secondly a greater number of vaccinations carried out by the team (34,908) during 1971 and thirdly more vaccinations done by other Health Agencies.

Of the total population of Swaziland, 13.7% were vaccinated against Smallpox in 1972, which is 1% more than in 1971. (See Table II)

Despite the increases in both B.C.G. and Smallpox vaccination carried out by the Health Agencies compared to 1971, it can be clearly seen that the "maintenance" vaccination programme is still in its infancy since it provides for only 24.6% of B.C.G. vaccination and 37.6% of Smallpox vaccinations.

We will in fact only be able to speak of a truly "intergrated" health service (in so far as B.C.G.) and Smallpox vaccination are concerned) when the "productivity" of the Health Agencies increases by at least another 35% insofar as B.C.G. is concerned and 22% insofar as Smallpox vaccination is concerned (see Table 12)

An assessment of B.C.G. Vaccination lesions carried out in 2 districts showed that less than 1% of vaccinations were unsuccessful (see Table 13) Similarly, an assessment of Smallpox vaccination lessons in the same 2 districts demonstrated that 5.3% of Primary and 7.1% of revaccinations were unsuccessful (See Table 14).

There were less unsuccessful vaccinations during 1972 but fewer persons were assessed for Smallpox vaccination than in 1971 (B.C.G. 2.63%; Primary smallpox vaccination 7.2%; revaccination 16.6%)

The assessment of B.C.G. and Smallpox Vaccination is carried out by the Mobile Team leader on people vaccinated by the Team. To date, we have no means of assessing the vaccination done by other Health Agencies. It is quite possible that their percentage of unsuccessful vaccinations may be higher than that of the Team.

#### Tuberculosis "Case" Finding (See Table 15)

As part of the National Programme of Tuberculosis Control, "Case" finding is carried out by Hospitals and Clinics and to a lesser extent by private practitioners and private nurses. Case finding procedures and anti-tuberculosis treatment are standardised throughout the country and the Programme as a whole is supervised by staff from the National Tuberculosis Control Centre.

Basically the programme depends on the collection of sputum specimens from patients with chest symptoms (of at least 2 weeks duration) who attend





the clinics and hospital outpatients departments. Sputum specimens are dispatched to the Central Public Health Laboratory, where they are examined by direct microscopy and culture.

Although case finding by X-Ray examination is practised, it is confined to the large hospitals, some industrial concerns and the National T.B. Control Centre. It is not considered to be as important a case finding method as sputum examination.

1. Compared to 1971, the number of participating health agencies remained about the same.
2. The total number of "first time" collected specimens and examined decreased by 457 compared to 1971. The only district in which there was no decrease in collection was Hhohho. The number of collected in this district in fact increased by 358 specimens. The decreases in specimen collections is discussed below.
3. There was one more Direct Microscopy (D.M.) "positive" patient than in 1971 (524) and, since the number of "first time" specimens collected decreased, the "positivity" rate at 5.1% was higher than in 1971 (4.9%).
4. There was a fall in the number of patients found to be D.M. "negative" but culture "positive" compared to 1971 (257). Of the 132 patients in this category, 108 (See Table 21) were ordered anti-TB treatment and 24 (see Tables 23 and 24) were placed under "observation". The probable reason for the decrease in numbers is set out below. Since the fall in numbers was considerable, the "positivity" rate in this group of patients was less than in 1971 (2.55%).
5. The total number of "cases" discovered during 1972 decreased by 124 compared to 1971 (781), the decrease being made up almost entirely of D.M. "negative" but culture "positive" patients.

It should be pointed out that the "positivity" rates given above are subject to some error because the number of "cases" are expressed as percentages of the total number of specimens collected. Quite often, more than one specimen was collected from a patient: hence there were fewer patients than "First time" specimens collected.

6. Incidence (See also Table 16). The incidence of D.M. "positive" cases is set out separately from the total number of "cases". Since 1970, D.M. "positive" incidences have not changed greatly but there has been a steady fall in the incidence of the total number of cases. To an extent this reflects the decrease in the frequency of D.M. "negative" but culture "positive" patients in the last 2 years.

#### "First Time" X-Ray Examination (See Table 17)

The total number of X-Rays taken at the National T.B. Control Centre decreased during 1972 compared to 1971 (3418). Of these, 15% were abnormal. Since there was a high degree of selection in so far as X-Rays seen at, or referred from, other Health Agencies, an "abnormality" rate was not calculated.

Compared to 1971, 260 more of the latter x-Rays were seen by the T.B. Medical Officer because half-way through the year it was decided that it would be more practical and efficient if regular visits were made to the 4 major hospitals to examine and discuss suspect tuberculosis patients (and their X-Rays) with the resident medical officers. There is little doubt that direct communication between T.B. Medical Officer and resident Medical Officer was a great deal better than written communications. There was the added advantage that sputum "negative" patients were more speedily registered for anti-T.B. treatment.

#### "Follow Up" X-Ray Examination (See Table 18)

There were 68 less "Follow-up" X-Rays taken at the Nat. T.B. Control Centre during 1972 than during 1971. Other Health Agencies provided 107 more "Follow Up" X-Rays than in 1971.

#### "Follow up" Sputum Examination (See Table 19)

Compared to 1971 (4084), 742 less "follow up" sputums were collected during





1972. The numbers collected decreased in all districts.

In 1971 a weekly "mail" service was introduced (reported in the Annual Medical and Sanitary Report for 1971) whereby a driver visits Health Agencies to collect specimens and deliver reports and drugs. This was introduced because in the past, nurses there complained of a lack of postal facilities and hence difficulty in posting specimens to the Central Public Health Laboratory. The intention was to overcome these difficulties and thus stimulate nurses at Health Agencies to greater sputum collecting efforts. By the end of 1971, the scheme seemed to have been successful, (1450 more "first time" specimens than in 1970). However, this success was short-lived, as an examination of Tables 19 and 20 shows. In these tables a comparison "in depth" is made between the introduction of the weekly "mail" service and 1972 (when the scheme had been in operation for at least 7 months). Only the National T.B. Control Centre (T.B. Centre) is identified by name—all other hospitals and health agencies are identified by code numbers only in the 2 tables concerned.

It can be seen that the number of "first time" specimens collected at the T.B. Centre and 3 hospitals (102, 103, 401) increased and more than doubled at 102 while at the others it decreased (200, 300, 400 and 402). The decreases at 400 and 402 were of the order of 43% and 29% respectively. At 200 and 300 the decreases were not nearly so great. The decrease at 402 was surprising because it has more in and out patients and serves a larger population than 102 yet both in 1970 and 1972 less than 100 specimens were collected.

#### In Manzini District

No "visited" health agency (V.H.A.) collected more than 40 specimens during 1972 and 7 out of 11 collected less than 20 specimens! Five V.H.A.'s increased their "output" between 1970 and 1972 but the numbers involved were so small as to be almost ludicrous. At one V.H.A. there was no change in the number collected and at 3 others there were decreases. In one of the latter, where just over 100 specimens were collected, in 1970 there was a humiliating 64% decrease in 1972!

The digits appearing above and to the right of the "first time" collections represent the number of months during which no specimens were collected. At 6 V.H.A.'s in 1972 no specimens were collected for 6 or more months of the year! Furthermore, the number of months during which no sputums were collected remained the same or increased at 4 V.H.A.'s in 1972. Interestingly enough, when a comparison is made of the total number of "unproductive" (when no specimens were collected) months in 1970 (56—mean 6.2) and 1972 (54—mean 6.0) at the 9 V.H.A.'s where such a comparison was possible the "mail" service in this aspect has made, to all intents and purposes, no difference.

#### In Shiselweni District

There were 5 V.H.A.'s of which 3 were not functioning in 1970; hence a comparison could be made only in the cases of V.H.A. 213 and V.H.A. 218. In the former the number collected dropped (by 48%); in the latter it rose (by 73%). There were (in the case of these 2 V.H.A.'s) more unproductive months in 1972 than in 1970 although the picture was not quite as bad as in the case of V.H.A.'s in Manzini District.

#### In Lubombo District

In 5 V.H.A.'s the increases were small in terms of numbers; in one V.H.A. the increase was large (V.H.A. 307). In the remaining 7 V.H.A.'s where a comparison was possible there was a drop in the number of specimens collected and in 3 of these no sputums were collected during 6 or more months of the year. Again, (as in the case of Manzini District) the total number of "unproductive" months in 1970 (45—mean 3.4%) and in 1972 (39—mean 3.0%) were similar at the 13 V.H.A.'s where such a comparison could be made. It appears therefore that Lubombo District V.H.A.'s were on average half as unproductive as Manzini District V.H.A.'s





In Hhohho District:

Five V.H.A.'s were not involved in the T.B. Control Programme in 1970. Hence comparisons can only be made for the remaining 10 V.H.A.'s. In 2 V.H.A.'s there was a large increase, in 6 there was a small increase and in 2 (V.H.A. 407 and V.H.A. 425) there was a decrease. In one of the latter V.H.A.'s specimens were not collected for 7 months of the year!

In a comparison of the total number of "unproductive" months in 1970 (44-mean 4.4.) and 1972 (26-mean 2.6) it seems clear that in the 10 V.H.A.'s where this comparison could be made the "mail" service was worthwhile from this point of view.

Overall, therefore, during 1972 nurses at 20 V.H.A.'s collected more specimens while nurses at another 14 V.H.A.'s collected less specimens than in 1970 when the "mail" service was not in operation. Of the 20 V.H.A.'s from whom more specimens were received, only 5 collected more than twice the number of specimens collected in 1970. At the other 15 the increases were much smaller and included V.H.A.'s where, although double the number or more specimens were collected than in 1970, the increases were considered to be small because the number collected in 1970 was less than 10.

In 3 districts the number of specimens collected from the "Not Visited Health Agencies" (N.V.H.A.) diminished; only in Manzini District did the number increase (16.2%)

In so far as the collection of "follow" up specimens was concerned among the hospitals only one showed an increase (17.7%) and all the rest collected less specimens than in 1970. Among the V.H.A.'s, 7 collected more, 3 collected the same number and at the remaining 24, less specimens were collected than in 1970. At the N.V.H.A.'s in all Districts there was a fall in the number of "follow up" specimens collected compared to 1970.

Clearly, the decrease in "First Time" specimens collected is an extremely disturbing development. This is especially so, when by Swaziland standards, an expensive mail service (the cost was R4007-50 in 1972) was introduced to encourage an increase in specimen collection. It indicates a complacency and fall-off of interest in case finding at a stage when we can least afford to relax our vigilance.

A change of nursing staff, perhaps even the normal medical officer turnover rate, may to a small extent account for the decrease. It certainly could not be blamed on a smaller number of patients with chest symptoms attending the hospitals and Health Agencies because during 1972 numbers of general attendances and therefore logically attendance of patients with chest ~~symptoms~~ increased.

The solution to this problem will only appear when the collection of a specimen of sputum from a patient with chest symptoms becomes as routine as the taking of a blood pressure at an ante-natal attendance.

TREATMENT (see Table 21)

Patients put on to treatment during 1972 have been categorised according to severity of disease, age and X-Rays status. As was pointed out in the last Annual Medical and Sanitary Report, the fact that a patient produces a sputum heavily laden with tubercle bacillie does not necessarily indicate that he is the most extensively diseased. The division is arbitrary but convenient and in fact an examination of the table shows that most radiological vacities occurred in those patients with heavily "positive" sputum specimens.

Most patients registered for anti-T.B. treatment were sputum "positive" (78.3%) and 45.5% were heavily sputum "Positive". In 1971 there was a smaller proportion (37.1%) of heavily sputum "positive" patients (but a slightly greater actual number 394) and a greater proportion and number of D.M. "negative" but Culture 2 and 1 "positive" patients (13.8% actual number 148). The suggested reason for the latter is discussed below. The proportion (and number) of sputum "negative" X-Ray "positive" and or Tuberculin "positive" (27.3%), actual number 290 patients in 1971 was also much greater than in 1972.





Most patients are in the over-15 year age group except for those in the last category (i.e. D.M. "negative" and Culture "negative", X-Ray "positive" and/or Tuberculin "positive", etc.) the bulk of whom were in the age groups 0-4.

Just under two-thirds (62.4%) of all patients (with pulmonary T.B.) put on to treatment had chest X-Rays taken. Of those who had X-Rays taken, cavities were visible in 41.9% of them, a greater proportion than in 1971 (32.9%).

In the category D.M. "negative" but culture 1 and 2 "positive", a greater proportion (49.2% in the age group over 15 years) had non-cavitating lesions and a smaller proportion (2.9% in the same age group) had normal X-Rays than in 1971 (31.1%, 11.5% respectively. It should be pointed out that the latter percentage was of all age groups combined.)

#### Extrapulmonary Tuberculosis .(See Table 22.)

As was the case in 1970 and 1971, glandular tuberculosis occurred more commonly than any other form of extrapulmonary tuberculosis. The other types of extrapulmonary tuberculosis are arranged in descending order of frequency.

By and large, diagnoses are clinical, with infrequent histological (or bacteriological) confirmation (12.9% of the total number of patients with extrapulmonary T.B.) although the presence of obvious pulmonary tuberculosis (27.7% of the total number of patients with extra-pulmonary T.B.) in a patient with suspected extrapulmonary T.B. probably makes histological examination unnecessary.

Out of 4 patients with Meningeal or Arachnoid involvement, none were confirmed bacteriologically; one had associated pulmonary tuberculosis and another associated joint tuberculosis. During 1971 the situation was the same (i.e., 4 cases). We have no means of knowing accurately what the frequency of Tuberculous Meningitis was in previous years. It would be encouraging to think that the fairly low frequency in 1971 and 1972 was as a result of widespread foregoing B.C.G. Vaccination.

It is possible that extrapulmonary tuberculosis is being under-reported. However, since the total number reported has remained more or less the same as last year (104), one can assume that under-reporting is not extensive.

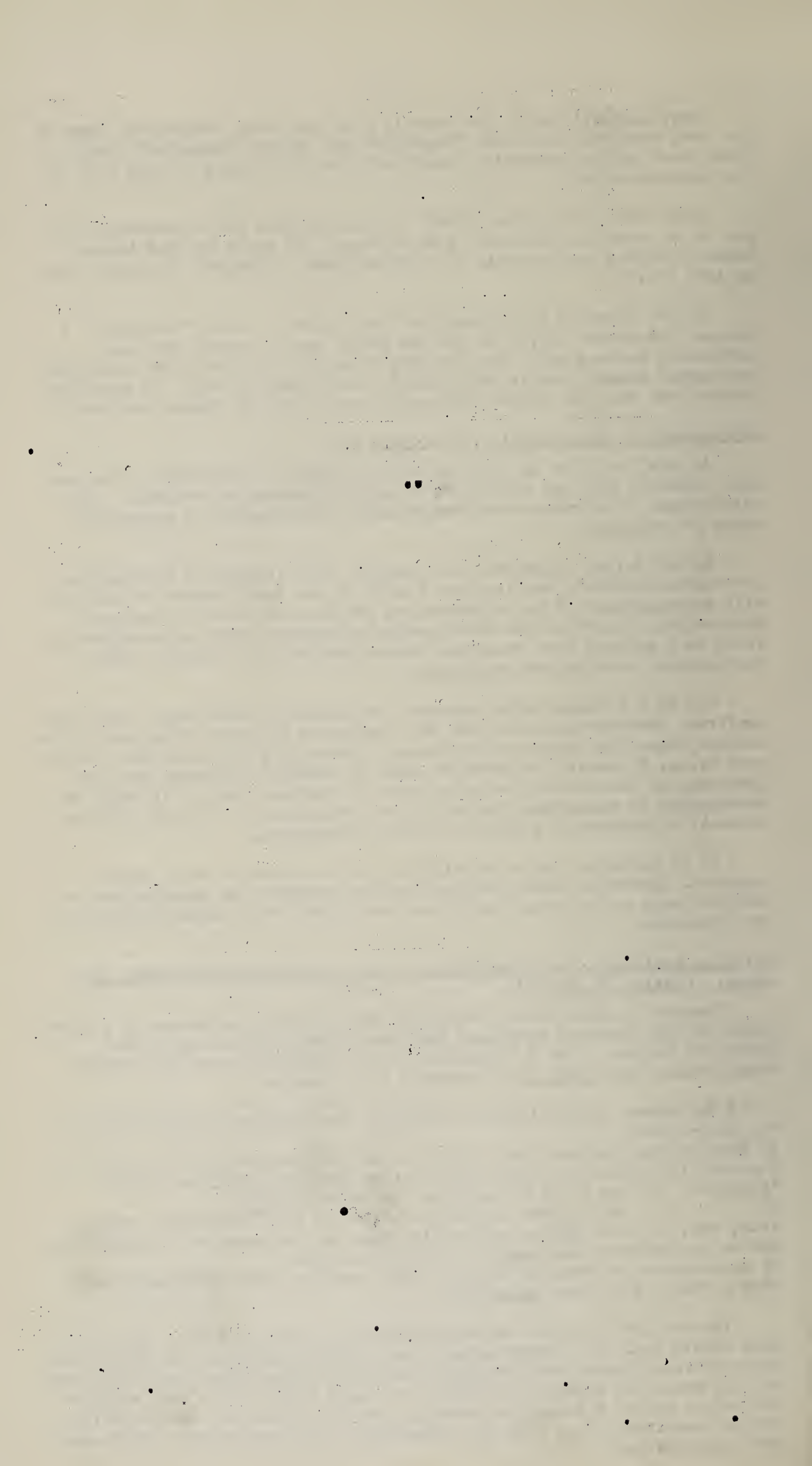
#### Patients registered for "observation": anti-tuberculosis treatment not given. (Tables 23 and 24).

Compared to 1971 (when there were 70 patients), the number of patients found to have produced specimens which were Direct Microscopy (D.M.) "negative" Culture 1 and 2 "positive" (for an explanation of the bacteriology coding, see Table 21) diminished considerably.

Of the three possibilities to explain the decrease, only the last is the likely one:

- 1) Less sputum specimens were collected in 1972 compared to 1971; but the decrease in collection (4.3%) could not explain the decrease in D.M. "negative" culture 1 and 2 "positive" patients (56.9%).
- 2) A shift from the "Observation" to the "Treatment" group: this, too, is an inadequate explanation because the number of these patients put on to treatment was less in 1972 than in 1971.
- 3) An absolute diminution; this is likely because since 1970 there has been a steady fall (see Table 16).

The decision to treat or not depends to a large extent on the Niacin Test result and, to a lesser extent, on the X-Ray findings. In 1971, most patients were Niacin Test "negative" and most of the X-Rays taken were normal (11 out of 21 X-Rays). In 1972 again most Niacin Tests were negative but only 1 out of 6 X-Rays was normal. However, since the abnormalities in the remaining X-Rays were not suggestive, the patients were not treated for Tuberculosis.





Somewhat more patients were registered for "observation" in 1972 than in 1971. The number "deregistered" differed by only 2 from 1971. The number of patients found to have cavities on X-Ray differed by 3 from 1971: these were almost certainly examples of non-tuberculous lung abscesses since sputum examinations were "negative".

Patients put on to anti-T.B. treatment in 1970 and followed up to the end of 1972 (See Tables 25, 26 and 27)

In Tables 25 and 26 X-Ray status has been omitted but otherwise the patients are categorised in the same way as in Table 22.

These are probably the most sobering Tables in this section of the Annual Report. In effect, they serve as an evaluation of the treatment programme of an "intergrated" service. Since all patients are treated on a domiciliary basis (about 66% of them wholly so and the rest after an initial  $2\frac{1}{2}$  month period in hospital) the Tables also measure the effectiveness of treating tuberculous patients at home.

Only a small proportion of patients completed their courses of treatment. A greater proportion of patients in the age group 0-4 completed their treatment (40.3%) than in either of the other age groups. In 2 categories of disease - sputum "negative" but X-Ray or Tuberculin "positive" and extrapulmonary T.B. - the highest proportions of patients completing courses of treatment were achieved (age group 5-14: 52.0% and age group 0-4 50.0% respectively). This was poor consolation because these 2 "non-infectious" categories are the least important from a public health point of view.

The fact that only 20.1% and 25.2% of patients of 15 years or more found to be "Direct Microscopy 4 and 3" and "Direct Microscopy 2 and 1" respectively completed their courses of treatment was extremely discouraging. The Success of a treatment programme is measured by the proportion of these initially infectious patients who finish their treatment and remain sputum "negative".

More initially sputum Direct Microscopy "positive" patients who were aged 15 years or more defaulted than completed their treatment (37.4% Dir. Mic. 4 & 3 and 28.3% Dir. Mic. 2 & 1). The high proportion of recorded deaths in the age group "over 15 years" (21.3%) and the fact that after 2 years or more of follow-up, 13.5% were still on treatment (when they should have completed their treatment) is also to an extent a measure of the failure of the programme.

Patients in the remaining 2 categories (Dir. Mic. 0 Cult. 4 & 3 and Dir. Mic. 0 Cult. 2 & 1) fared little better. Apart from the 4 out of 5 patients aged 5 - 14 in the former category who completed treatment, the proportion of over 15 year olds completing treatment was low in the Dir. Mic. 0 Cult. 4 & 3 category (22.9%) and higher in the Dir. Mic. 0 Cult. 2 & 1 category (39.2). The latter category yielded the highest proportion of over 15 year olds completing their treatment but again this was of little consequence because initially Dir. Mic. "negative" culture "positive" patients are not considered to be anywhere near as infectious as initially Dir. Mic. "positive" patients.

Compared to the 1969 cohort of treated patients followed up to the end of 1971, patients in all categories of disease of the 1970 cohort except category "Dir. Mic. 0 Cult. 4 & 3" completed treatment less often.

Again as in the 1969 cohort, there were only 2 relapses during the follow-up period, one of which again became sputum "positive".

In the final Table (Table 27), a purely quantitative assessment is made of the treatment collected irrespective of the outcome for the patients. It is set out in the same way as in Table 25 and is in effect an extension of it.

Apart from the disease category Dir. Mic. 0 Cult. 0, X-Ray and Tuberculin "positive", only the over 15 year age group is considered in any detail.





The percentages in the categories 12 months treatment "regular" and "irregular" can be combined in order to get an overall picture of what proportion of patients collected a monthly supply of tablets at least 12 times in the period under review.

It can be seen (When a comparison is made with Tables 25 & 26) that more patients collect at least 12 months treatment than actually complete their course of treatment, except in the case of patients with extra-pulmonary T.B., where the numbers are the same.

Patients collecting between 9 and 11 months' treatment appear in the lowermost portion of the Table. This gives some idea of how inadequately the rest of the patients (who did not achieve 9 monthly collections) attend. There were not very many of these patients (in the age group over 15 years they constituted 5.9% of the total) By implication, therefore, a large number of patients had less than 9 months' treatment.

In past Annual Reports also, attention was drawn to the poor performance of our treatment programme, and although efforts have been made to improve the situation, we have not been successful thus far. In an "intergrated" programme such as we have in our country, a great deal depends on the interest and application of the nurse and on the speed with which she takes action to trace the defaulting patient. It may be thought that we are expecting too much from the Nurse, who also has other duties besides tuberculosis control in her community, but the evidence for this is not convincing. The conscientiousness of nurses varies a great deal, and hence the thoroughness with which they practice tuberculosis control varies in a like manner. By and large, nurses who are conscientious are able to find time for tuberculosis control.

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PLEASE TURN OVER FOR TABLES





1972 "MAB." VACCINATION PROGRAMME - MIMOMO DISTRICT

AGE IN YEAR	B.C.G.	SMALL POX VACCIN.	POX VACCIN.	TOTAL
0	415	245	027	272
1-4	2064	1842	303	2145
5-14	8552	6089	3112	9531
15+	594	958	3693	4651
TOTAL	11,655	9134	7165	18,599

TABLE 1.  
MOBILE VACCINATING TEAM ONLY.

B.C.G./S.P. VACCINATION COVERAGE 1971-'72 MIMOMO DISTRICT

TABLE 2.

AGE GROUP	B.C.G. VACCIN.	CORRECTED	ELIGIBLE POPULATION	COVERAGE %	SMALL POX VACCIN.	CORRECTED	ELIG. POP.	COV. %
0-4	10,107	10,587	20,199	51.9	8381	8,655	20,199	42.5
5-14	20,838	24,425	32,564	69.1	22,224	22,999	32,564	70.7
15+	1,391	1,650	59,936	2.8	17,767	17,974	59,936	29.9
TOTAL	32,686	36,692	112,699	(0-14:62.7)	48,572	49,628	112,699	44.5

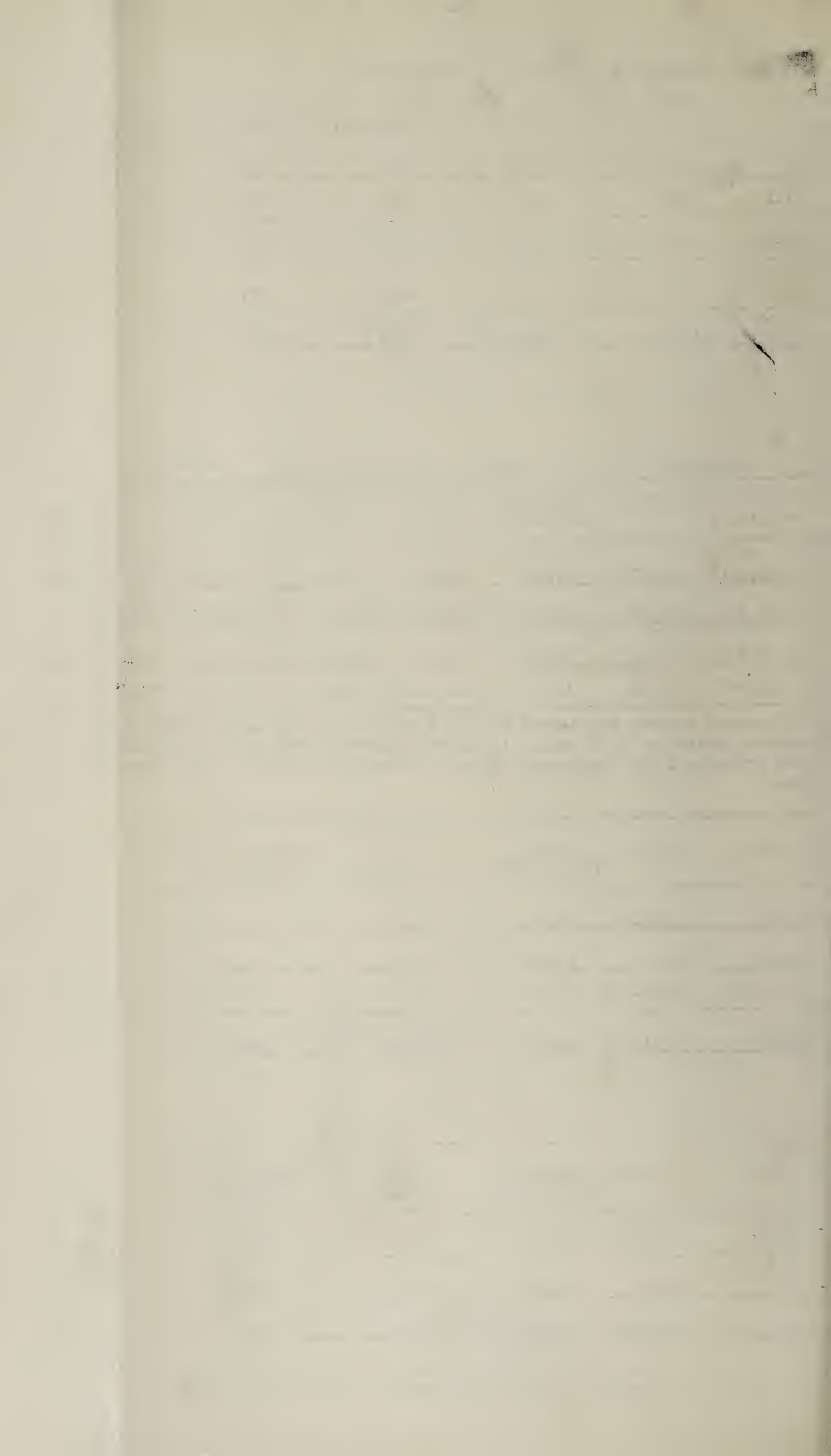
The difference between the column "B.C.G. Vaccin." and the column "Corrected" represents people in the District in 1971-'72 found to have been successfully vaccinated prior to 1971. The same applies to "Small Pox Vaccin." and "Corrected" columns.

DISTRICT	YEAR/S	ELIGIBLE POPULATION	B.C.G. COVERAGE %	SMALL POX VACCIN. COVERAGE %
MANZINI	1967-'68	16,850	46.0	41.3
LUBOMBO	1969	14,107	46.6	40.6
SHISALENI	1970-'71	19,746	47.4	43.4
MIMOMO	1971-'72	20,199	51.9	42.5

TABLE 3.  
% COVERAGE IN AGE GROUP  
0-4 YRS.  
WITH BCG/  
SP VACCINATION  
BY DISTRICT  
AND YEAR.

DISTRICT	YEAR/S	ELIGIBLE POPULATION	B.C.G. COVERAGE %	SMALL POX VACCIN. COVERAGE %
MANZINI	1967-'68	24,428	77.1	76.6
LUBOMBO	1969	25,014	56.5	55.4
SHISALENI	1970-'71	37,159	64.8	64.2
MIMOMO	1971-'72	32,564	69.1	70.7

TABLE 4.  
% COVERAGE IN AGE GROUP 5-14 YRS. WITH B.C.G./SP VACCIN. BY DISTRICT AND YEAR.





DISTRICT	YEAR/S	ELIGIBLE POPULATION	B.C.G. COVERAGE	S.P. VACC. COVERAGE
MANZINI	1967-'68	51,737	3.1	11.6
LUBOMBO	1969	60,022	1.6	20.4
SHISELENI	1970-'71	48,341	3.5	34.3
MALEHO	1971-'72	59,936	2.8	29.9

TABLE 5.

% COVERAGE  
IN AGE GROUP  
15 YRS +.  
WITH BCG/SP  
VACCINATION  
BY DISTRICT  
AND YEARS.

1972 "MAINTENANCE" VACCINATION PROGRAMME MANZINI DISTRICT

AGE IN YRS.	B.C.G.	SMALL PRIMARY	POX REVACCIN.	VACCINATION TOTAL
0	1062	395	04	399
1-4	3002	3397	638	4035
5-14	6691	6685	9659	16,344
15+	176	912	10,088	11,000
TOTAL	10,931	11,389	20,389	31,778

TABLE 6.

VACCINATIONS DONE  
BY HEALTH CENTRES,<sup>a</sup>  
OTHER HEALTH AGENCIES  
AND MOBILE VACCIN-  
ATING TEAM

a. Health Centre = A  
Centre where  
immunizations,  
health education,  
well baby exami-  
nation & anten-  
tal examinations  
etc. are done.

1972 "MAINTENANCE" VACCINATION PROGRAMME SHISELENI DISTRICT.

AGE IN YRS.	B.C.G.	SMALL PRIMARY	POX REVACCIN.	VACCINATION TOTAL
0	1276	76	00	76
1-4	466	744	771	1515
5-14	058	93	190	283
15+	000	13	4210	4223
TOTAL	1800	926	5171	6097

TABLE 7.

VACCINATIONS  
DONE BY HEALTH  
CENTRES AND  
OTHER HEALTH  
AGENCIES.



1972 "MAINTENANCE" VACCINATION PROGRAMME LUBOMBO DISTRICT

AGE IN YRS.	B.C.G.	SMALL POX PRIMARY	VACCINATION REVACCIN.	TOTAL
0	166	157	03	160
1-4	227	350	37	387
5-14	258	315	461	776
15+	20	19	1313	1332
TOTAL	671	811	1814	2655

TABLE 8.

VACCINATIONS DONE BY  
HEALTH CENTRES AND  
OTHER HEALTH AGENCIES.

1972 "MAINTENANCE" VACCINATION PROGRAMME HIGHER DISTRICT

AGE IN YRS.	B.C.G.	SMALL POX PRIMARY	VACCINATION REVACCIN.	TOTAL
0	1618	49	00	49
1-4	564	709	139	848
5-14	127	33	612	645
15+	04	04	5006	5010
TOTAL	2313	795	5757	6552

TABLE 9.

VACCINATIONS DONE BY  
HEALTH CENTRES AND  
OTHER HEALTH AGENCIES.

1972 WHOLE COUNTRY	B.C.G. VACCINATION	SMALL POX PRIMARY	VACCINATION REVACCIN.	TOTAL
ALL AGES	27,370	23,035	40,596	63,681

TABLE 10.

TOTAL POPULATION MID-1972 PROJECTION OF 1966 CENSUS.	TOTAL SMALL POX VACCINATIONS 1972.	COVERAGE
464,568	63,681	13.7%

TABLE 11.



THE HISTORY OF THE  
CITY OF LONDON  
FROM THE FOUNDATION  
TO THE PRESENT  
BY JOHN STOW

THE HISTORY OF THE  
CITY OF LONDON  
FROM THE FOUNDATION  
TO THE PRESENT  
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THE HISTORY OF THE  
CITY OF LONDON  
FROM THE FOUNDATION  
TO THE PRESENT  
BY JOHN STOW

THE HISTORY OF THE  
CITY OF LONDON  
FROM THE FOUNDATION  
TO THE PRESENT  
BY JOHN STOW

ORIGINS OF VACCINATION	B.C.G.		SMALL POX	
		%		%
MOBILE VACCINATING TEAM	20,621	75.4	39,766	62.4
ALL OTHER HEALTH AGENCIES	6,749	24.6	23,915	37.6
TOTAL	27,370	100.0	63,681	100.0

TABLE 12.

B.C.G. VACCINATION LESION ASSESSMENT: MALINI AND HHOHHO DISTRICTS.

AGE IN YRS.	LESION PRESENT	LESION ABSENT
0-4	188	3
5-14	490	3
15+	35	0
TOTAL	713	6 (.8%)

TABLE 13.

TABLE 14.

SMALL-POX VACCINATION LESION ASSESSMENT: MALINI AND HHOHHO DISTRICTS.

AGE IN YRS.	PRIMARY VACCINATION		RE-VACCINATION	
	LESION PRESENT	LESION ABSENT	LESION PRESENT	LESION ABSENT
0-4	166	8	9	4
5-14	498	24	319	19
15 +	20	6	54	6
TOTAL	684	38 (5.3%)	382	29 (7.1%)





a. "C A S E" FINDING ACTIVITIES 1972. TABLE 15.

C A T E G O R I E S	DISTRICTS				
	MANZINI	SHISELENI	LUBOMBO	HHOHO	TOTAL
	17-25 (21)	11-15 (13)	12-19 (16)	12-20 (17)	52-79 (67)
A. Participating <sup>b</sup> HEALTH Agencies: (Mean in brackets)					
B. Number of Specimens from A. examined by Direct Microscopy <sup>d</sup> ("First Time" Specimens):	5116	1460	835	2751	10,162
C. Patients found to be Direct Microscopy (D.M.) "Positive"	-	-	-	-	525
D. Rate % $(\frac{C \times 100}{B})$ :	-	-	-	-	5.17
E. Patients to be D.M. "Negative" but Culture "Positive" :	-	-	-	-	1.37
F. Rate % $(\frac{E \times 100}{B-C})$ :	-	-	-	-	657
G. Total No. of Patients found to be "Positive" on D.M. or Culture (C + E) :	D.M. "Positive" only: 18.7/10,000 D.M. "Positive" & D.M. "Negative" but Culture "Positive": 22.4/10,000				
H. INCIDENCE $(\frac{\text{Treated "Positive" Patients} \times 10,000}{\text{Total Population 10 years +}})$					

- a. "Case" bacteriologically proven patient with Tuberculosis.  
b. Clinics, Hospitals, Private Practitioners, Private Nurses.  
c. Total population 10 years and over = 281,566 (mid 1972 projection of 1966 census - residents only - see H.M.Jones, Report on the 1966 Swaziland Population Census, 1968, p.635 publ. Swaz.Govt.)  
d. See explanation a. below Table 18.

YEAR	D.M."Positive" only	D.M."Positive" & D.M."Negative" but Culture "Positive"
1970	19.3	27.4
1971	19.4	26.1
1972	18.7	22.4

INCIDENCES /10,000 of the POPULATION BY YEAR TABLE 16



a.

"FIRST TIME" X-RAYS SEEN AT, OR REFERRED FROM STATED HEALTH AGENCIES TO NATIONAL T.B. CONTROL CENTRE IN 1972. "FIRST TIME" X-RAYS TAKEN AT NATIONAL T.B. CONTROL CENTRE IN 1972 INCLUDED.

TABLE 17.

DISTRICT	HEALTH AGENCIES	TOTAL X-RAYS	TOTAL ABNORMAL X-RAYS
MANZINI	N. T.B. C. CENTRE	3176	476 <sup>b</sup> (15.0%)
	R.F.M. HOSP.	44	37
	OTHER	61	45
SHISELWENI	HLATHI. HOSP.	152	114
	OTHER	03	02
LUBOMBO	GD. SHEP. HOSP.	228	103
	OTHER	12	08
HHOHHO	MBA. HOSP.	380	232
	OTHER	51	42

c.

"FOLLOW UP" X-RAYS SEEN AT, OR REFERRED FROM STATED HEALTH AGENCIES TO NATIONAL T.B. CONTROL CENTRE IN 1972. "FOLLOW UP" X-RAYS TAKEN AT NAT. T.B. CONTROL CENTRE IN 1972 INCLUDED.

TABLE 18.

DISTRICT	HEALTH AGENCIES	TOTAL X-RAYS
MANZINI	N.T.B. C. CENTRE	1026
	R.F.M. HOSP.	24
	OTHER	21
SHISELWENI	HLATHI. HOSP.	35
	OTHER	00
LUBOMBO	GD. SHEP. HOSP.	24
	OTHER	01
HHOHHO	MBA. HOSP.	156
	OTHER	16

- a. "First Time" - ~~patients~~ attending on account of chest symptoms and in whom the diagnosis of Tuberculosis has ~~not been~~ confirmed
- b. Abnormal X-Rays as a percentage of all X-Rays taken at the National T.B. Control Centre.
- c. "Follow Up" - Known Tuberculosis patients attending for repeat examination while on treatment or after treatment was completed.

N. T.B. C. CENTRE- NATIONAL T.B. CONTROL CENTRE

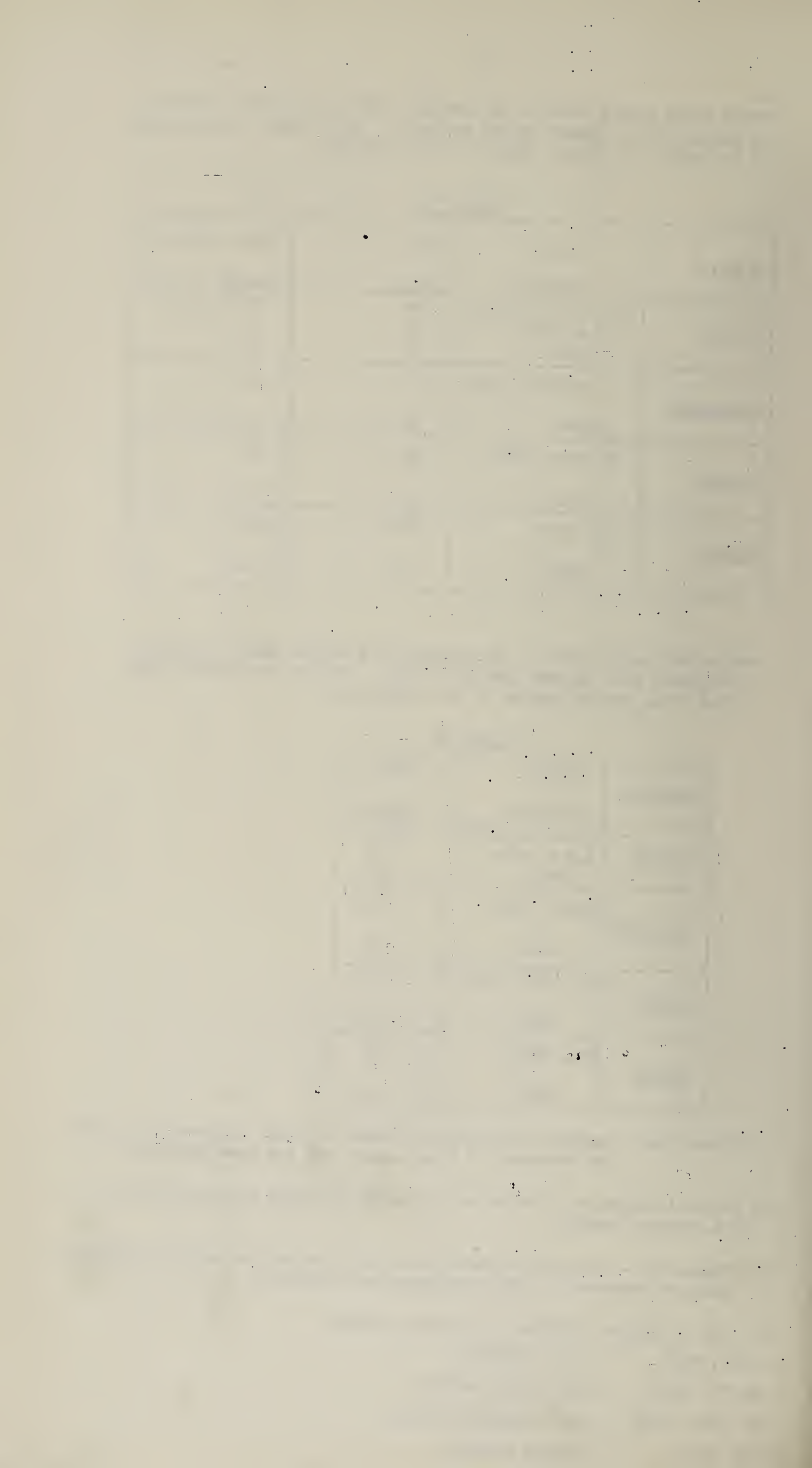
R.F.M. HOSP. - R.F.M. HOSPITAL

HLATHI. HOSP. - HLATHIKULU HOSPITAL

GD. SHEP. HOSP. - GOOD SHEPHERD HOSPITAL

MBA. HOSP. - MBABANE HOSPITAL





ORIGINS OF SPUTUM SPECIMENS COLLECTED FROM PATIENTS WITH CHEST SYMPTOMS ("FIRST") AND FROM KNOWN T.B. PATIENTS ON TREATMENT ("F.U."), BY DISTRICT, IN 1970 AND 1972.

TABLE 19 EXPLANATIONS.

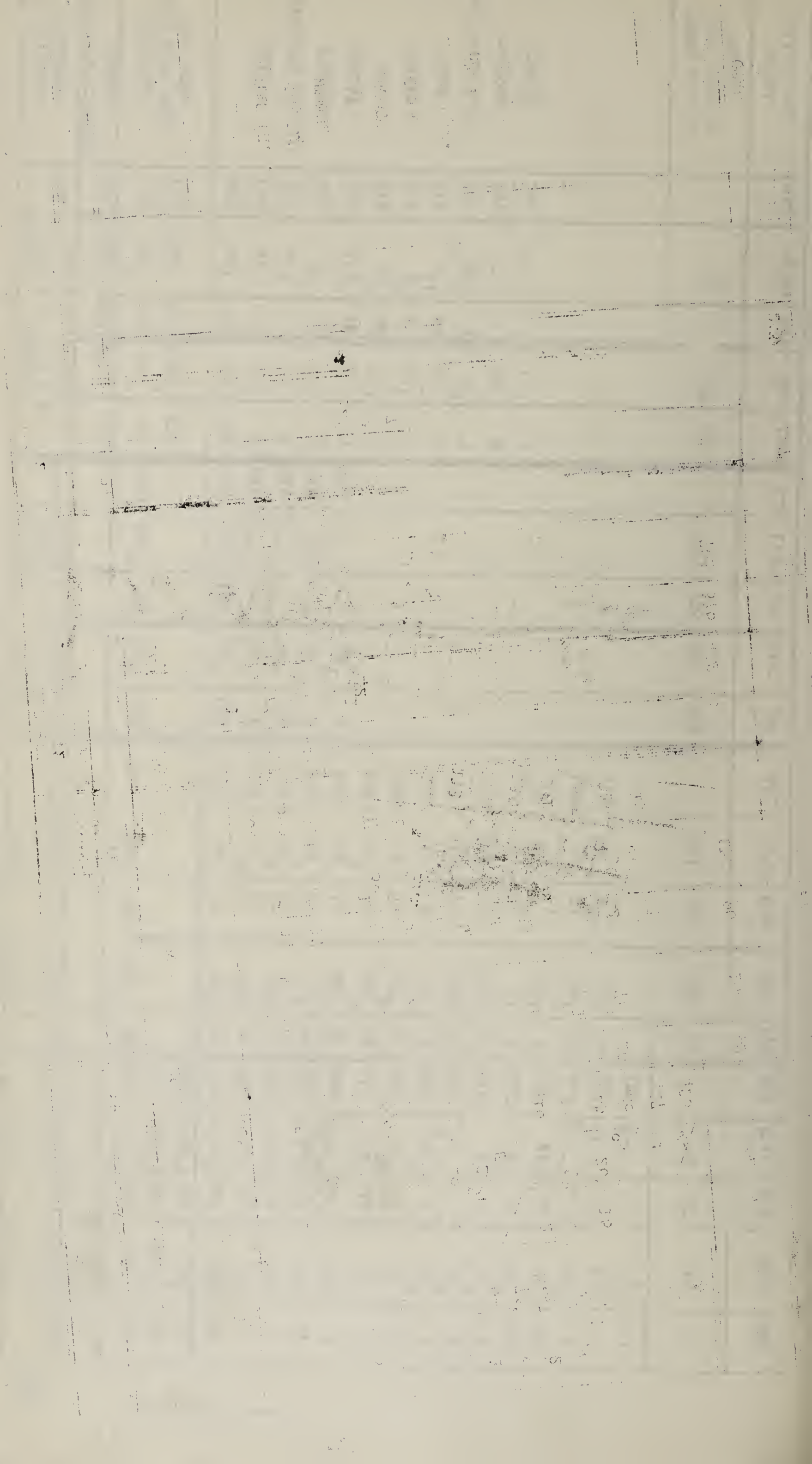
- a. November figures incomplete.
- b. Opened March 1970.
- c. Not open in 1970.
- d. Opened May 1970.
- e. Closed for part of 1972.
- f. Not working as a daily clinic in 1970.
- g. Not co-operating in 1970.
- h. Only visited in second half of 1972.
- i. Opened March 1972.
- j. Hospital visited weekly.

N.B.        Digits entered above and to the right of the main digits represent the number of months in the year during which no specimens were collected.





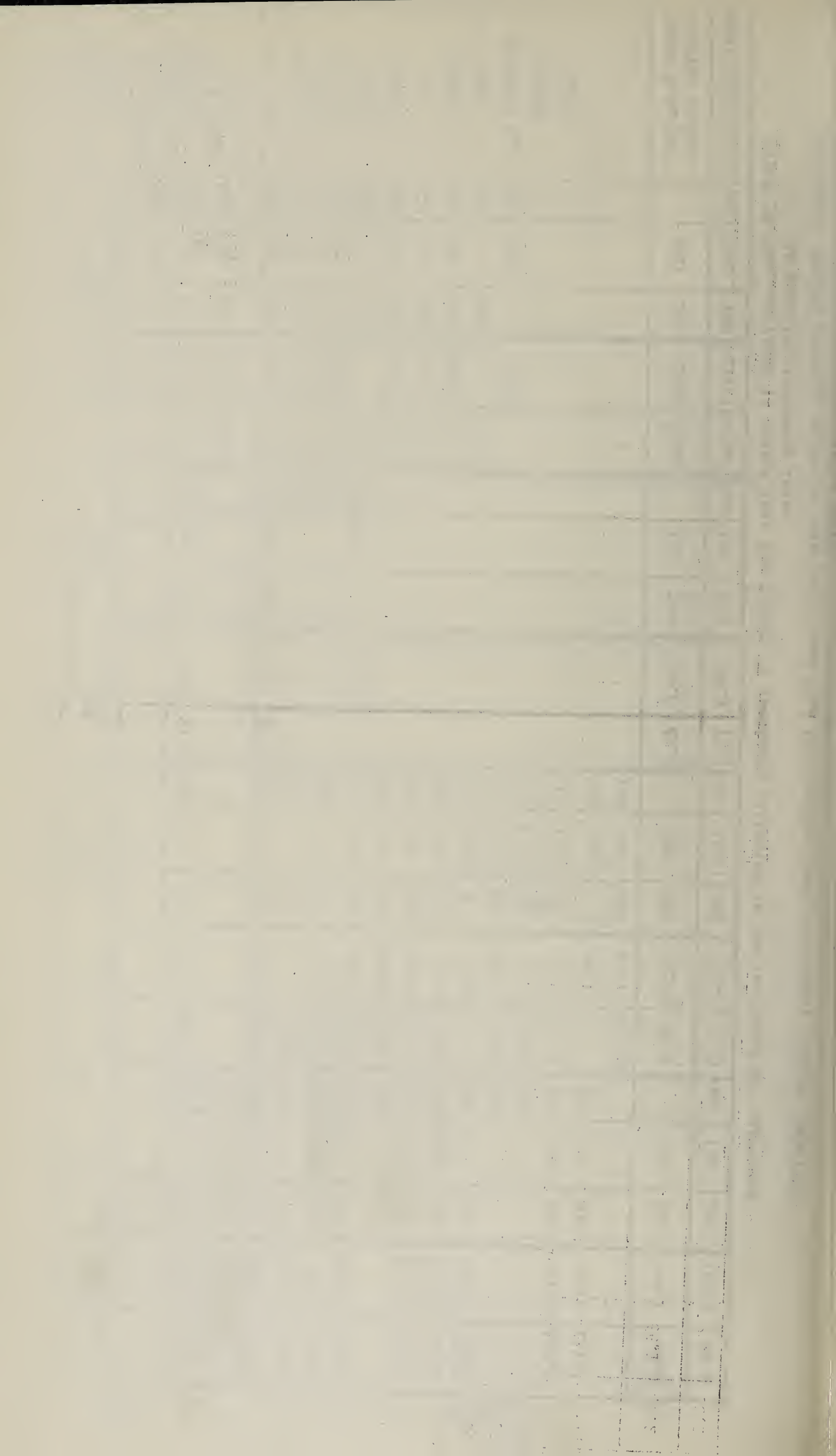
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PATIENTS PUT ON ANTI-T.B. TREATMENT IN 1972 CATEGORISED BY AGE, BACTERIOLOGICAL & XRAY STATUS. TABLE 21

	Age in Years	Dir.Mic. 4&3	Dir.Mic. 2&1	Dir.Mic.0 Cult. 3	Dir.Mic.0 Cult. 2&1	Dir.Mic. 0 Cult. 0 Tub.+ , XR+ , "Contacts"	TOTALS
TOTAL NUMBER	0-4 5-15 15+	01 16 351 (45.5%)	02 111 144 (19.4%)	01 02 35 (4.7%)	00 01 67 (8.65%)	47% 18 33 (12.1%)	51 50 630 (90.35%)
WITH CAVITY/IES ON X-RAY	0-4 5-15 15+	00 06 127 (61.0%)	01 02 29 (35.2%)	00 00 11 (40.1%)	00 00 02 ( )	01 00 05 (8.0%)	02 03 181 (41.5%)
WITHOUT CAVITIES ON X-RAY	0-4 5-15 15+	00 03 82	01 03 14	00 01 14	00 01 33	24 13 27	25 21 210
X-RAY NORMAL	0-4 5-15 15+	00 00 00	00 01 00	00 01 00	00 00 02	02 02 01	02 04 03
NO X-Ray TAKEN	0-4 5-15 15+	01 07 142	00 05 61	01 00 10	00 02 23	20 03 00	22 27 236

EXCLUDED FROM THIS TABLE: Extrapulmonary T.B. occurring alone; for details see Table 22. MISSING RECORDS: 2 patients.

EXPLANATION OF THIS TABLE

Dir.Mic. = Direct Microscopy  
Cult. = Culture  
Tub.+ = Tuberculin "Positive"  
XR+ = X-Ray suspicions of T.B.

0 = No tubercle bacilli on standard microscopic field.  
1 = 1 - 5 " "  
2 = 6-25 " "  
3 = 25 or more " "  
4 = Tubercle bacilli on most microscopic fields.

a. Categories of disease as a percentage of all patients put on treatment -- including extrapulmonary T.B. (See Table 22)

b. X-Rays with cavities as a percentage of all X-Rays taken in the various categories.

c. This total includes one child with Military T.B.

Culture  
" "  
" "  
" "

0 = No colonies.  
1 = 1-24 " "  
2 = 25-99 " "  
3 = 100 or more colonies.





EXTRAPULMONARY TUBERCULOSIS 1972. TABLE 22.

EXTRA- PULMONARY T.B.	AGE IN YRS.	TOTALS	HISTOLOGY OR BACTERIO- LOGY "POSITIVE."	ASSOCIATED WITH PUL- MONARY T.B.	ASSOCIATED WITH OTHER EXTRAPULMO- NARY T.B.	EXTRAPULMONARY TUBERCULOSIS OCCURRING ALONE.
AD	0-4	9	0	5	0	4
	5-14	11	3	2	0	9
	15+	26	7	4	1 e.	22
INF	0-4	8	0	4	0	4
	5-14	6	0	1	0	5
	15+	12	0	3	0	9
JNT	0-4	3	0	1	0	2
	5-14	2	0	1	1 g.	1
	15+	5	1	2	0	3
MENINGEUM	0-4	0	0	0	0	0
	5-14	1	0	1	0	0
	15+	6	1	2	0	4
SKIN	0-4	1	0	1	0	0
	5-14	1	1	0	0	1
	15+	4	0	0	2 e.f.	4
EYES	0-4	3	0	1	0	2
	5-14	2	0	0	0	2
	15+	0	0	0	1 f.	0
LYMPH	0-4	1	0	0	0	1
	5-14	3	0	1	1 g.	2
	15+	0	0	0	0	0
THYROID	0-4	0	0	0	0	0
	5-14	0	0	0	0	0
	15+	2	1	0	0	2
TESTIS	0-4	0	0	0	0	0
	5-14	1	0	0	0	1
	15+	0	0	0	0	0
ADENOMIUM	0-4	0	0	0	0	0
	5-14	0	0	0	0	0
	15+	1	0	1	0	0
GRAND TOTAL	0-4	25	0	12	0	13
	5-14	27	4	6	1	21
	15+	56	10	12	2	44

(9.65%)

Includes Ankle, Knee, Hip &amp; Elbow.

Includes Face, Breast &amp; Fistula-in-ano.

Includes Eyelid.

Includes Cervical, Axillary, Intra-abdominal &amp; Inguinal.

1 patient with Gland &amp; Breast T.B.

" " " Fistula-in-ano &amp; Eye T.B.

" " " Joint &amp; Meningeal T.B.

All Extrapulmonary T.B. (occurring alone) expressed as a percentage of all patients put onto treatment - see table 21.



TABLE 23. SPECIMENS FROM PATIENTS FOUND TO BE DIR.MIC.O. CULIF.1&2 (POSITIVE). THESE PATIENTS WERE REGISTERED FOR OBSERVATION ONLY AND WERE NOT TREATED.

SPECIMENS	IN		DIR.MIC.O. CULTURE 1		DIR.MIC.O. CULTURE 2	
	NO.					
TOTAL	0-4	00		00		00
NUMBER	5-14	00		02		06
	15+	16				
WITH CAVITY/LAS	0-4	00		00		00
ON	5-14	00		00		00
A-RAY	15+	00		00		00
WITHOUT CAVITY/LAS	0-4	00		00		00
ON	5-14	00		00		00
A-RAY	15+	05		0		
NORMAL	0-4	00		00		00
A-RAY	5-14	00		00		00
	15+	01		00		
NO X-RAY	0-4	00		00		00
TAKEN	5-14	00		02		06
	15+	10				

CLINICAL	POSITIVE 19
DOUBTFUL	01
NOT DONE	04

TABLE 24. PATIENTS REGISTERED FOR OBSERVATION ONLY, 1972. AMONG THESE ARE THE PATIENTS REPORTED IN TABLE 23.

SPECIMENS	IN		TREATMENT
	NO.		
PATIENTS REGISTERED FOR "OBSERVATION"	0-4	22	
	5-14	55	
	15+	130	
b. "DANGER/RECORD"	0-4	03	
	5-14	09	
	15+	65	
DIR.MIC.O. CULTURE 1.& 2.	0-4	00	
	5-14	02	
	15+	22	
DIR. MIC. CAVITY	0-4	18	
	5-14	45	
	15+	329	
A-RAY WITH CAVITY	0-4	01	
3. POSITIVE CAVITY	5-14	01	
	15+	22	

- a. Anti-Tuberculosis treatment not given.
- b. Patient "danger/recorded" from "observation" and re-registered for





TABLE 25. EXPLANATIONS

COMPLETED TREATMENT	=	At least 12 months treatment and sputum "negative" by the end of treatment. Children of 5 years or under who could not produce sputum and patients with extrapulmonary tuberculosis were assessed on their clinical status.
DEFAULTED	=	Did not complete treatment and had not returned by the end of 1972.
CHRONIC	=	Patients persistently sputum "positive."
RELAPSED	=	After completing treatment sputum became "positive" and /or X-Ray showed deterioration.

TABLE 27. EXPLANATIONS

HAD 12 MONTHS TREATMENT (REGULAR)	=	In the first 15 months of the treatment period at least 12 monthly collections of tablets were made.
HAD 12 MONTHS TREATMENT (IRREGULAR)	=	In the first 15 months of the treatment period less than 12 monthly collections of tablets were made. Twelve monthly collections were only achieved after the first 15 months of the treatment period.
HAD 9-11 MONTHS TREAT- MENT.	=	Between 9 and 11 monthly collections of tablets were made in the period 1970-1972.





TABLE 25. 1970 COHORT OF PATIENTS NOT ON TREATMENT AND FOLLOWED UP TO 1972.

TYPES OF OUTCOME	AGE IN YRS.	DIRECT MICROSCOPY 4 & 3		DIRECT MICROSCOPY 2 & 1		DIR. MIC. CULT. 4 & 3		DIR. MIC. CULT. 2&1		DIR. MIC. CULT. 1, 2, 3, 4		EXTRACRANIAL TUBERCULOSIS	TOTALS
DIAGNOSED	0-4	02		03		02		01		116		10	134
	5-14	22		09		05		16		050		11	113
	15+	348		127		61		130		107		27	800
CANT LIVE TREATMENT	0-4	01		02		01		04		45		05	54
	5-14	03		11		04		05		26		04	43
	15+	76		32		11		51		36		09	212
STILL ON TREATMENT	0-4	00		01		00		00		06		01	07
	5-14	04		02		01		01		07		00	15
	15+	52		22		11		11		09		03	108
DEFERRED	0-4	01		01		00		01		42		04	49
	5-14	10		05		01		10		17		07	47
	15+	130		36		23		49		35		12	287
DIED	0-4	00		00		00		00		19		00	19
	5-14	03 <sup>a</sup>		03		00		00 <sup>c</sup>		00 <sup>d</sup>		00	06
	15+	85		31		13 <sup>b</sup>		16		22		03	170
ABORTIC RELAPSED	0-4	00		00		00		00		00		00	00
	5-14	00 <sup>e</sup>		00		00		00 <sup>f</sup>		00 <sup>g</sup>		00	00
	15+	00		00		00		01		01		00	02
REFUSED TREATMENT	0-4	00		00		00		00		01		00	01
	5-14	00		00		00		00		00 <sup>g</sup>		00	02
	15+	02		07		01		02		01		00	17

ADDED FROM THIS TABLE:

DEATHS AFTER TREATMENT COMPLETED: a. 2 deaths, b, c, d. 1 death in each case.

CHARTED PATIENTS. e. & f. 2 patients each, already counted in "STILL ON TREATMENT" or "DEFERRED" categories.

LEFT COUNTRY AFTER TREATMENT COMPLETED: g. 1 patient.

B.C.G. "UNKNOWN" REACTION: 1 patient.

MISSING RECORDS: 6 patients.

ADDITIONS

3A= EXTRACRANIAL RELAPSE.  
AR = K-RAY RELAPSE.



TABLE 26. SAME AS TABLE 25 EXCEPT NUMBERS OF ATTEMPTS IN VARIOUS CATEGORIES OF DISEASE EXPRESSED IN RELATIVE FREQUENCY FORM

TYPES OF CUTS AND AGES IN YRS.	STRIKES MICROSCOPY 4 & 3	DIRECT HISTOLOGY 2 & 1	DIR. MIC. O. CULT. 4 & 3	DIR. IC. O. CULT. 2 & 1	DIR. MIC. O. CULT. O., R. + 2PT. +	ATTEMPTS IN TUBERCULOSIS	TOTALS
DIAGNOSED							
0-4	-	-	-	-	100	100	100
5-14	100	100	100	100	100	100	100
15+	100	100	100	100	100	100	100
SMILLER OR TACKELETT							
0-4	-	-	-	-	30.8	50.0	40.3
5-14	15.6	11.1	80.0	31.3	52.0	36.3	33.1
15+	20.1	25.2	22.9	39.2	33.6	33.3	26.5
DEFAULTED							
0-4	-	-	-	-	5.1	-	5.2
5-14	18.2	-	-	-	14.0	-	13.2
15+	14.9	17.3	13.0	8.4	8.4	11.1	13.5
DETAILED							
0-4	-	-	-	-	36.2	40.0	36.5
5-14	45.5	-	-	62.5	34.0	63.6	41.6
15+	37.4	20.3	36.0	37.7	35.5	44.5	35.9
DIAGNOSED							
0-4	-	-	-	-	16.4	-	14.3
5-14	-	-	-	-	-	-	5.3
15+	24.4	24.4	21.3	12.3	20.5	11.1	21.3

EXTRACTED FROM THIS TABLE

Last four FIVE OF OUTCOME in Table 25.





TABLE. 27. 1970 COHORT OF PATIENTS PUT ONTO TREATMENT AND FOLLOWED UP TO THE END OF 1972. A QUANTITATIVE ASSESSMENT OF THE TREATMENT COLLECTED IRRESPECTIVE OF THE OUTCOME. (The proportion of patients who collected tablets at least 12 times or 9-11 times appears in the various disease categories in brackets).

CATEGORIES	AGE IN YRS.	DIRECT MICROSCOPY 4&3	DIRECT MICROSCOPY 2 & 1	DIR. MIC. O. CULTURE 4 & 3	DIR. MIC. O. URE. 2 & 1.	DIR. MIC. O. CULT. 0, XR.+ , TUB.+	EXTRAPULMONARY TUBERCULOSIS	TOTALS
DIAGNOSED	0-4 5-14 15+	02 22 348	03 09 127	02 05 61	01 16 130	116 050 107	10 11 27	134 113 800
HAD 12MONTHS TREATMENT (REGULAR)	0-4 5-14 15+	01 05 101 (29.1%)	01 01 49 (38.6%)	00 05 16 (26.2%)	00 04 52 (40.0%)	41 (35.3%) 23 (46.0%) 34 (31.8%)	07 03 06 (22.2%)	50 (37.3%) 41 (36.3%) 258 (32.2%)
HAD 12 MONTHS TREATMENT (IRREGULAR)	0-4 5-14 15+	00 02 26 (7.4%)	02 00 05 (3.9%)	01 00 02 (3.3%)	00 02 07 (5.4%)	11 (9.5%) 07 (14.0%) 07 (6.5%)	01 01 03 (11.1%)	15 (11.2%) 12 (10.6%) 50 (6.2%)
HAD 9-11 MONTHS TREATMENT	0-4 5-14 15+	00 05 25 (7.2%)	00 01 10 (7.9%)	00 00 04 (6.6%)	01 03 04 (3.1%)	06 02 04 (3.7%)	00 00 00	07 11 47 (5.9%)

1913

1914

1915

1916

1917

1918

1919



ANNUAL MALARIA REPORT

1. Climatic Conditions.

Total rainfall for the period July, 1971 to the end of June, 1972, was about average with a rather unusual distribution.

Rainfall was heavy in October and December but November was below average.

Heavy rains fell again in January and February with floods but March and April were dry and May unusually wet. In the period June to October 1972 rain was poor but because of the good summer of 1971, we did not experience drought conditions.

This rainfall pattern, with dry conditions in March and April, after heavy rains in January and February, was definitely conducive to extensive breeding by our vectors *A. gambiae* and *A. funestus* taking place, leading to a very high population of vector mosquitoes. The above, together with even a few parasite carriers who move across our borders, resulted in an explosive outbreak of malaria of epidemic proportions.

Meteorological readings from stations in the Middle and Lowveld are shown in the following table for the period covered by this report.



T E M P E R A T U R E - 0°C

Month	<u>MATSAPA</u>		<u>STIEKI</u>		<u>WISSERRODE - BIG BEND</u>		<u>MANANGA</u>		<u>LIVUMISA</u>	
	<u>Altitude</u>	<u>2000 ft.</u>	<u>Altitude</u>	<u>2200 ft.</u>	<u>Altitude</u>	<u>950 ft.</u>	<u>Altitude</u>	<u>950 ft.</u>	<u>Altitude</u>	<u>600 ft.</u>
	<u>Rainfall</u> in Mm.	<u>Temp.</u> °C Absolute Max. Min.	<u>Rainfall</u> in Mm.	<u>Temp.</u> °C Absolute Max. Min.	<u>Rainfall</u> in Mm.	<u>Temp.</u> °C Absolute Max. Min.	<u>Rainfall</u> in Mm.	<u>Temp.</u> °C Absolute Max. Min.	<u>Rainfall</u> in Mm.	<u>Temp.</u> °C Absolute Max. Min.
July 1971	9.3	29.5 5.0	3.7	27.5 7.9	-	31.0 0.0	-	32.0 6.0	6.0	35.3 5.5
August		32.5 4.0	8.0	30.9 8.2	0.2	36.0 0.3	2.0	- -	5.0	38.4 5.0
September	31.7	36.0 9.5,	29.5	34.3 9.4	12.0	36.5 8.0	14.5	40.0 12.0	14.0	36.9 8.4
October	148.5	36.5 8.0	105.5	34.8 8.3	70.0	39.5 10.5	93.5	39.0 12.0	43.5	38.5 10.4
November	46.0	31.8 9.8	88.7	29.6 11.2	102.1	36.0 11.4	180.2	33.0 16.0	68.7	36.4 9.5
December	210.5	35.8 14.8	139.0	34.4 13.7	146.4	39.5 16.4	165.5	35.0 19.6	85.5	38.9 8.5
January	233.4	34.0 14.5	274.2	34.2 14.2	243.0	38.0 16.5	169.9	37.0 19.0	112.0	40.5 8.0
February	292.1	29.0 13.0	401.6	28.7 13.7	296.2	32.5 24.0	207.0	32.0 15.0	122.0	38.6 8.0
March	154.0	30.5 14.0	202.0	29.6 12.6	95.8	32.5 12.2	112.5	31.0 13.0	52.5	39.0 9.0
April	-	32.5 12.5	6.5	31.2 13.5	6.8	33.5 12.0	43.0	33.0 14.0	-	37.0 8.5
May	95.3	30.5 7.5	150.5	N.R.	67.5	32.5 3.0	127.5	31.0 9.0	98.5	35.9 7.0
June	-	27 3.8	3.0	30.5 6.0	15.2	26.7 0.2	2.1	31.0 5.0	-	32.0 7.0
Yearly	1220.8	36.8 3.8	1412.2	34.8 6.0	1055.2	39.5 0.0	1144.7	(40.0)(5.0)	607.7	40.5 5.0





POPULATION AND HUT COUNT

The above count, is carried out by field staff after the Annual Malaria Conference each year, and it is designed to give an idea of the size of population that has to be catered for, and the number of dwellings that have to be sprayed with residual insecticide when this has to be done.

Figures obtained from returns sent in by field staff is as follows :-

<u>Adults</u>	<u>Children</u>	<u>Infants</u>	<u>Total</u>
29,974	20,352	3,394	53,720

In some areas, counts were not completed because of a number of reasons, but the total estimated population at malaria risk, for the whole of the malarious area was 216,420.

MALARIA CONTROL MEASURES.

These measures are continually being carried out by Health Assistants, who are stationed in all the most vulnerable areas in the Lowveld.

SURVEILLANCE. Field staff is constantly engaged in active surveillance work by doing,

- (1) Active case detection by routine taking of blood films.
- (2) Anti malarial drug treatment of suspected indigenous malaria cases, and immigrants from neighbouring malarious areas.
- (3) Epidemiological investigation of all positive cases.
- (4) Collecting mosquito specimens by space spraying.
- (5) Detecting likely vector breeding foci, and treating these with larvicides.
- (6) Residual spraying with D.D.T. or BHC.
- (7) Positive malaria case follow ups.

All these activities are designed to investigate and eliminate continuing transmission of malaria, by discovering and treating both cases and carriers.

Additional surveillance agents will be required for some areas in the Lowveld, which are being developed as growth points. Such areas include those around the Mpaka Coal Mine, the Nyetane Sugar Development complex around Big Bend, and the Usutu River Basin Scheme area around Maphobeni.

All these areas will have large concentrations of people, and will be vulnerable in respect of malaria.

There are certain areas in the Lowveld which have had private or mission clinic services withdrawn. Should these services not be restored, it may become necessary to station a surveillance agent to serve the area.

These Rural Clinics are valuable in the Lowveld areas, as they serve large communities and in respect of malaria, they serve as front line outposts, by taking blood films and giving presumptive treatment to all unidentified fevers of unknown aetiology.





## RESIDUAL SPRAYING

Very extensive residual spraying with D.D.T. 75% w.d.p. was started on the 1st November, 1971, and all dwellings and other habitable structures in the following areas were treated.

### I. In the North to North East of Swaziland.

- (1) Mashobeni to Mayiwane including Ndlalambi.
- (2) Mboma area to Mpofu.
- (3) Mpofu to Nyakatho.
- (4) Mhlangatane to Nhlanguyavuka.
- (5) All along the border with the Transvaal.
- (6) Border Gate - through Tunzini to Tshaneni.
- (7) Mhlume to Vuvulane to Tambokulu to Mlaula.
- (8) Sihoya - Nkambezi - Balegane.
- (9) Mzaceni - Mandlangampisi - Dokolwako Manzana.

### II. In the South all areas around Big Bend viz. Ubombo Ranches, Big Bend Sugar Estates. All farms along the road from Sipofaneni to Big Bend viz. Diamond C, Tambuti Estates River Bank Sugar Company.

Altogether a total of 49,604 dwellings and other habitable structures was sprayed, and 7.5 metric tons D.D.T. 75% w.d.p. was utilised. In spite of the extensive spraying that was done, an explosive outbreak of malaria hit the control unit on the 10th of April. This indicated that infective bites by mosquitoes were received during the last week in March, and the first week in April. From this time onwards we were in trouble, as cases cropped up almost daily. Most cases were from blood films, sent in from the Sugar Estates viz. Tshaneni, Mhlume, Tambokulu. Many cases were from Mhlangatane, Nhlanguyavuka area which borders on the Transvaal, in South Africa where a Malaria epidemic was already raging.

The malaria epidemic in the North East can definitely be attributed to the following factors.

- (i) The presence of a large vector population, due to the presence of numerous breeding foci, because of the heavy rains with floods, in January and February followed by the dry sunny month of March.
- (ii) The uncontrolled movement of people across the borders in both directions. It was found that people from Swaziland work in the Transvaal and come home fortnightly.
- (iii) The presence of cases and undiscovered carriers in the communities of both neighbouring countries, together with the fact of this being at this time an epidemic in the Transvaal. Following on this outbreak in the North East, cases occurred in the interior of the country and were found at (a) Ngomane around Ehlane, (b) Mlaula, where the railways enter the country from PE1, (c) Ngcina below Siteki, (d) Sipofaneni and surrounding areas where no spraying had been done, (e) Sinceni and surrounding areas where it had not been sprayed too, (f) Isolated cases also appeared in other parts of the country, where no residual spraying had been done for two years, thus indicating vulnerability to acute malaria flareups.



This was true especially in the southern in half of Swaziland. Cases were found at Madubeni, Sitobela, St, Phillips Mission, Ngcampalala and Hlatikulu. In these places no spraying had been done for the past 10 years. From the above outline of our spraying operations, it does come to light that, when rainfall is above average, no amount of residual spraying can reduce the number of positive cases found. This fact means that the bionomics of our vector is not completely understood. Very few *A. gambiae* mosquitoes were sent in from houses where residual spraying had been done. This finding is indicative of there being very little house resting by our probable vectors, so that infective bites are obtained outside of houses. This observation ties in with the fact that, in the hot summer nights there is a tendency for people to sleep outside their dwellings, because it is cooler and they are innured to being bitten by mosquitoes, when they are asleep. It can be noted here that our probable vector *A. gambiae* is a painless biter.

ENTOMOLOGY: Mosquitoes sent in by field staff from the following areas were identified as follows :-

<u>Mboma</u>	-	2A. coustani
<u>Mpofu</u>	-	4A. maculipalpus
		1A. rufipes
<u>Tshaneni</u>	-	3A. gambiae complex
<u>Tambonkulu</u>	-	1A. gambiae.
		1A. coustani.
<u>Lomahasha</u>	-	2A. gambiae.
		1A. marshalli.
<u>Sipofaneni</u>	-	2A. rufipes.
		1A. coustani.
<u>Mhlangatane</u>	-	2A. gambiae.
		2A. coustani.
		1A. marshalli.
<u>Nkambeni</u>	-	4A. coustani.
		1A. marshalli
<u>Mhlume</u>	-	James Compound
		1A. gambiae
		16A. gambiae.
		1A. coustani.
<u>Ngomane</u>	-	1A. gambiae.
		1A. rufipes.
<u>Sinceni</u>	-	1A. gambiae.
		4A. coustani.
		1A. rufipes.

During the period when the WHO Entomologist Mr. S. Sobti was in the country, entomological investigations were conducted in areas where positive cases were reported.

Investigations were done under his supervision at the following places :-

1. Ngcina below Siteki.
2. Mathanjeni - 12 - 15 miles west of Golela.





3. Magidzela - east of Sipofaneni on the main road to Big Bend.
4. S.U.T. Compound - In the lowveld 8 miles south of Mhlume.
5. Tunzini Cattle Compound - between Border Gate and Tshaneni.

At all times, during investigations at the above places, our work was hampered by rain. *A. gambiae* mosquitoes were collected mostly from cattle enclosures, and there was no evidence of house resting, and inside biting, neither could it be shown that *A. gambiae* left houses without resting.

It was the first time that our unit made use of a mosquito light trap. This had been brought along by the WHO Entomologist. We found that results from it were not very encouraging as it collected all other types of insects, more than it did vector mosquitoes.

PARASITOLOGY: Blood slides taken by field staff and those sent in by passive workers, were examined by microscopists stationed at the Health Office.

Because of the many positive cases found during the transmission season, no mass blood surveys were carried out, due to the fact that the malaria epidemic placed a severe strain on the resources of the unit, as all available staff and transport was fully engaged, in taking contact and repeat blood films, and carrying out epidemiological investigations.

For the period of this report a total of 34,266 blood films were examined and the following results were recorded.

<u>Source</u>	<u>Negative</u>	<u>Positive</u>	<u>Total</u>
Indigenous	32,948	363	33311
Immigrants	833	79	912
Not Yet Known	-	43	43
Total	<u>33,781</u>	<u>485</u>	<u>34266</u>

Species

Plasmodium falciparum  
 Plasmodium malariae  
 Plasmodium falcip/malariae

Annual Parasite Incidence 1.4  
 Annual Blood Examination Rate 15.8%

Immigrant blood films were taken from people who had emigrated from the following neighbouring provinces:-

<u>Source</u>	<u>Negative</u>	<u>Positive</u>	<u>Total</u>	<u>% Positive</u>
Mozambique	188	60	248	24.1
Zululand	108	4	112	3.5
Transvaal	529	14	543	2.5
Others	<u>8</u>	<u>1</u>	<u>9</u>	<u>11.1</u>
TOTAL	<u>833</u>	<u>79</u>	<u>912</u>	

The following table shows the results of the experiments conducted on the effect of the temperature of the water on the rate of the reaction between hydrogen peroxide and potassium iodide. The experiments were conducted at different temperatures, and the rate of the reaction was measured by the volume of oxygen gas evolved in a given time.

It is seen from the table that the rate of the reaction increases with an increase in the temperature of the water. This is because the rate of a chemical reaction increases with an increase in the temperature of the reactants. The reason for this is that at a higher temperature, the molecules of the reactants have more kinetic energy, and hence they move faster and collide more frequently. As a result, the rate of the reaction increases.

Temperature of water (°C)	Volume of oxygen gas evolved (cm <sup>3</sup> ) in 10 minutes
10	10
20	20
30	30
40	40
50	50
60	60
70	70
80	80
90	90
100	100

The above table shows that the rate of the reaction increases with an increase in the temperature of the water. This is because the rate of a chemical reaction increases with an increase in the temperature of the reactants. The reason for this is that at a higher temperature, the molecules of the reactants have more kinetic energy, and hence they move faster and collide more frequently. As a result, the rate of the reaction increases.



### ANALYSIS OF POSITIVE CASES:

From July 1971 to the end of March, 1972, we had a total of 51 positive cases, which on investigation revealed that 33 were Imported from Mozambique, two from Zululand and one from Uganda.

Of the Imported cases only 12 were very sick in that they had to be hospitalised, while 21 of the Imported cases were asymptomatic parasitaemias (carriers).

In respect of the Indigenous positive 6 out of a total of 18 were hospitalised indicating that 12 were carriers.

Only one indigenous case was found in the first week of April 1972. Suddenly from the 10th April, we had an epidemic flare up, which by the end of June had resulted in a total of 500 cases.

Some cases that were discovered early in the epidemic were investigated by the WHO Entomologist. These investigations revealed the presence of probable *A. gambiae* vectors. These mosquitoes were found mostly in and around cattle enclosures, feeding or resting around these situations.

No report has been forth coming from the WHO Entomologist. As most unfortunately, all the work of the entomological team was always hampered by continuous rain, it may indicate that the data the Entomologist was able to collect, was too scanty, to enable him to write a report on his findings.

An interesting investigation is the fact that in the hot summer nights on the lowveld, when there is no rain, most people usually sleep outside their dwellings, in the enclosure made by their numerous huts. By and large, no *A. gambiae* are found resting in sprayed dwellings, but were mostly found in and around cattle enclosures. It can be assumed that most infective biting probably takes place outdoors, and that the zoophilic *A. gambiae* species C, is the vector that could likely be incriminated.

### DRUG ADMINISTRATION:

Darachlor tablets are supplied by the Health Office, to all field staff and clinics in the malarious area, for the treatment of malaria either as prophylaxis, presumptive treatment, or radical cure.

For the period covered by this report, a total of 126,500 had been issued from the Health Office. Because of the epidemic in the lowveld, and the wide publication of the situation in the Transvaal, over radio and in the press, there was a panic, to the extent that at some stage anti-malarials in South Africa were in short supply.

We decided that tablets would only be issued to people who had to reside or go into malarious areas for genuine reasons, and not just for pleasure as is the case with tourists who could afford to buy these anti-malarials.

It was for this reason, that tablets were placed at Border posts, leading out to the North and East of the country, for issue to citizens of Swaziland who of need had to get to the malarious areas .

Where positive malaria cases occurred, anti-malarial tablets were given to all contacts, for prophylaxis after blood film was taken and radical treatment was given to all positive cases, revealed after examination of the blood films.





Mass drug administration is usually only resorted to when the malaria situation really shows signs of getting out of control,

#### TRANSPORT:

The use of two Honda motor cycles, by field staff on the sugar estates in the past, made it easy for one man, to cover a vast area, in a short space of time. This had the advantage of enabling one man, to cover his area on a 10-14 day cycle. This 10-14 day interval, is important, because it represents the average duration of the mosquito life cycle, from egg to adult, and also equally as important, the incubation of clinical malaria.

Ideally in high risk areas, or situations, a surveillance agent should be able to cover, and survey his area once a fortnight. These motor cycles were used in areas where roads are fair to good, but as they were not very robust, they were subject to frequent breakdowns, and spent long periods in P.W.D. workshops, awaiting repairs. Finally, they were declared redundant, and despite frequent representations to date, have not been replaced by heavier machines. In turn this has meant that where previously, one man could adequately cover an area in an acceptable time, it has now been found necessary, to put an additional man with him, in order to achieve the same degree of surveillance. This has entailed removing a man from another area as vulnerable, and therefore leaving it unprotected. Obviously this is risky, but in the circumstances could not be avoided. It is to be hoped that the motor cycles will be replaced by sturdier machines. By and large, the time taken to effect running repairs and general servicing of our landrover fleet, frequently appears excessive. It has not been unusual for such delays, to cause cancellation of a planned programme or to result in field staff being restricted to base, because of lack of transport. This can be most frustrating, especially during the transmission season. There was a time, when our vehicles were accorded priority at the mechanical workshops. Could not this be restored?

#### CONFERENCE:

Because of the difficulty in finding a suitable venue, with accommodation and lecture room facilities, the conference for malaria field staff, had to be cancelled, most reluctantly. The value of such meetings should not be underestimated, as it is through them that we are able to get a fresh look at our malaria control programme, and spurring field staff on to exerting more effort, to their daily routine in the field.

#### LECTURES:

A lecture with demonstration on the activities of malaria control unit was given to student nurses and senior nursing personnel at the Raleigh Fitkin Memorial Hospital, Manzini.

P. M. Mathews  
HEALTH INSPECTOR.





UMBULUZI LEPROSY HOSPITAL

As at 31st December, 1972 there were 32 patients in residence.

During the year, 13 new cases were admitted, and there were 3 re-admissions for re-activated disease. 10 further re-admissions were for chronic ulcers and treatment. The average age was 40 years. 23 cases were discharged during the year and one death was reported. Of the resident cases, 2 were infected children, and 4 non-infected. Cases are classified into Lepromatons and Tuberculoid.

Of the new admissions, 13 were acute fulminating types, with high bacilli counts. The remainder were hospitalised for gross deformities and ulcers.

Origin of New Cases.

Mbabane 3	Pigg's Peak 6
Siteki 2	Manzini 2
Mankayane 0	

If we compare the new admissions admitted to this hospital since 1963, we find that the position seems more or less static during the past 10 years, new cases fluctuating between 13 - 31. In the past 3 years the figures for new cases are 20, 31 and 13 respectively.

Ambulance mileage for the year 1972 was 16,273 miles. 585 trips were undertaken averaging 27.8 miles per trip.





### BILHARZIA

Bilharzia continues to be a source of concern and is definitely on the increase as the construction of irrigation schemes in the country as part of our agricultural development. However, we have been directing our efforts to reducing drastically the incidence of Bilharzia.

Swaziland has a good record in the field of bilharzia research and more recently in that of control of bilharziasis. As far back as the early 1950s, officers of the medical department, as our Ministry was then called; were actively collecting data on the prevalence, distribution and related epidemiological factors concerning the establishment and spread of bilharziasis. This was at a time when there was no effective means of clearing infested natural waters of host snails and when treatment was somewhat hazardous and often not completely effective.

In this way an enormous amount of useful data was collected. Because of this we have been able to map the distribution of vector snails in dams, natural water courses and irrigation systems, throughout the country. We know to a fair degree of accuracy the percentage of people in any given area of the country likely to be suffering from bilharziasis. Moreover, we have been able to observe the effect, certain aspects of agricultural development such as, irrigation and the building of dams, has had on what could be regarded as the natural prevalence of the disease.

Concurrently with survey work as described above, several small pilot control projects were established in selected areas of the country. These have been in operation for many years and have been used to assess the efficacy of various control measures, such as mollusciciding.

About two years ago the first large scale control scheme was launched in Big Bend. This covers some 10,000 acres of the Ubombo Ranches Sugar Estate. Since then the scheme has been extended to cover about 24,000 acres of irrigated land in the Big Bend area.

About this time separate schemes were also launched to cover the urban area of Manzini, the Ngonini irrigated estate in the North, and the Tambuti estate near Sipofaneni.

More recently a pilot control scheme was initiated at Tshaneni. If successful this scheme will be extended to cover an area of 42 square miles of irrigated land which will include the whole of the Tshaneni, Mhlume, Tambankulu and Vuvulane irrigated estates.

Control in all areas is being approached from two directions. Snail control is being effectively achieved through the use of Bayluscide which you mention and also by the use of a newer formulation, Frescon. There is little to choose between either product as regards effectiveness. In addition the school going population in all these areas is being surveyed. Children found infected are treated with a drug known as, Etrenol. This is the latest, and considered by many medical people to be the most effective form of treatment. It is given as a single injection.

From the above you will realise that a start a large scale control of bilharziasis has been made. Indeed we have reason to be quite proud of our achievements in this sphere especially since efficient molluscicides and safer and more effective therapy became available.

I would not, however, wish to minimise the problem we face in our country or give the impression that bilharziasis can be eradicated within a few years. Far from it, the problem is immense and can only be tackled in an orderly manner as additional funds and trained staff become available.





LABORATORY SERVICES:

Four laboratories.

- (1) The Central Public Health Laboratory. This laboratory acts as a training centre for Laboratory Assistants and also as reference laboratory plus parent laboratory for supplies, equipment, solutions etc.
- (2) Mbabane Hospital Laboratory.
- (3) Hlatikulu Hospital Laboratory.
- (4) Pigg's Peak Hospital Laboratory.

Central Public Health Laboratory.

At the beginning of the year Mr. Cotton (W.H.O.) left Swaziland to take up a development project in Lesotho, and Mr. Witcomb appointed in 1970 took charge of the laboratory service.

The National Blood Bank is now housed in its new building in the Central Laboratory. The cytological unit has continued to expand and it is hoped to expand more when a family planning unit starts in the King Sobhuza's Clinic.

Courses.

Miss D. Mkhonza and Miss E. Thabede are still in Nairobi, Kenya attending the two-year course for the Intermediate of the Institute of Medical Laboratory Technology. Mr. J. Mkhonza and Mr. W. Nxumalo attended a course for laboratory assistants in Nigeria for three months.

It is hoped that when Miss Mkhonza and Miss Thabede finish their examinations in Kenya in May 1973 that they be allowed to go overseas to take a final.

Visitors.

During the past year visits to the Central Laboratory were made by :-

Dr. Quenum, Regional Director, W.H.O.  
Dr. P. Kean, The Cancer Research Unit, S.A.I.M.R.  
Dr. A. Linsel, The International Cancer Research Unit, W.H.O.,  
Nairobi.  
Dr. G.G. Dibue, W.H.O. Representative for Southern Africa.

Hlatikulu Hospital Laboratory.

Mr. J. Mkhonza has acted as relief at the laboratory on his return from Nigeria. The laboratory continues to expand and will certainly have to have extra staff in the very near future if the standard is to be maintained.

Pigg's Peak Hospital Laboratory.

Work goes ahead with new premises for the Laboratory which it is hoped will be ready in 1973.

Mbabane Hospital Laboratory.

The work continues to increase at this Laboratory. When the new wards are in operation it is certain that the laboratory with its present facilities will not be able to cope. New tests and techniques have been introduced from the Central Laboratory and very few specimens have now to be sent to the Central Laboratory for analysis.





Mankayane Hospital.

A small clinical side-room was set up at this hospital during the period of Dr. Smith's stay there. Unfortunately he had to be withdrawn and the side room closed. Should a doctor be posted there then the side room can be re-opened.

The National Blood Transfusion Service.

The N.B.T.S. has moved to the Central Laboratory and is now a firmly established part of the laboratory services.

Mr. S. Bennet of the American Peace Corps was relieved by Mr. Grell also of the Peace Corps.

Units of blood donated this year by the people of Swaziland were 2,050 and all the hospitals in Swaziland were supplied. Staff Nurse Nkosi is in charge of this aspect.

Mrs. Hlope has been trained under Mr. Witcomb to do simple blood grouping and blood bank procedures.

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144-  
CHAPTER 4

PUBLIC HEALTH NURSING UNIT - MINISTRY OF HEALTH

The Unit continued to work through three main health centres: i.e. Mbabane, King Sobhuza II Health Centre in Manzini and Hlatikulu, and one sub-centre i.e. Mankayane. The Public Health nurses also visit sub-centres from the main centres. These are :- Siphocosini, Makhwane, Sigangeni, Maphalaleni, Lozitha, Mbekelweni, eDwaleni, Mgazini, Gebeni, eMpini.

Lundzi - A request by the late chief of this area is still outstanding. There are many requests coming in but it is hoped that at least Lundzi will be fulfilled next year.

HEALTH CENTRE ACTIVITIES

Mother and child health remain the basic services. International immunizations are also conducted. "Pap" smears continue to be taken from women who attend welfare sessions. The service still suffers from teething troubles. However, several women outside welfare session have also presented themselves for pap smears. The Unit was also visited by Dr. G. Msibi who had a target of 1,000 smears to do.

As reported in the 1971 Annual Report, through Senator C. Farley, the extension of the Mbabane Health Centre to house Family Planning and Ca Services also a Refresher Course Unit is nearing completion. These extra services should begin to function broadly early next year.

Rural Clinics:

These clinics are still visited regularly by the Public Health Nurses. Monthly visits this year averaged 11 months which was a great improvement from last year.

Hlatikulu and Mankayane staff continue to work under unfavourable conditions.

Distinguished Visitors:

Dr. L.F. Delfin	-	W.H.O. Medical Officer
Dr. G.G. Dibue	-	W.H.O. Representative
Mr. & Mrs. B. Eresc	-	Berlin, Germany
Dr. & Mrs. H. Steffens	-	Berlin, Uhlndsh, Germany
Miss M.E. Faulkines	-	Guy's Hospital, London S.E.I.
Mr. Lymoth	-	Cape Town
Mr. P. Cranks	-	Johannesburg

Training:

Through lack of accommodation no training was conducted. However, preparations are being done to start early next year.

Attendances & Re-Attendances of the P.H. Nursing Unit

1971	-	102,921
1972	-	249,084

These attendances have more than doubled in one year.

STAFF

Staff Nurse Edith Ntiwane attended a Food and Applied Nutrition Course in Israel and Zambia with a g very good pass.



Sister Maggie Makhubu represented Swaziland at a Seminar in Nairobi on Family Life Education.

Staff Nurse Dorothy Mbelu represented Swaziland at a Seminar in Nashville on Family Planning.

Matron N.N. Dlodlu was transferred to Mbabane Hospital. Matron A. Dlamini took over. Sister Maggie Makhubu transferred to Mbabane Health Centre.

The Unit was joined by Dr. M. Chuene early in the year who was later transferred to Mbabane Hospital. She joined the Unit at the end of November.

Dr. G.G. Murphy, S.M.O.H. left at the end of his contract and Dr. Z.M. Dlamini took over as S.M.O.H. at the end of November.

Health Education: was carried out in the health centre, and sub-centres by all public health nurses. A programme was drawn which allowed all public health nurses to take an active part in health education which goes with the public health nursing activities.

#### Health Education in the Urban Health Centre:

Group Talks: 92 group talks were conducted in the health centre which covered all communicable diseases, nutrition diseases, and minor complaints of pregnancy.

Individual Advices: These were carried out in both ANC and C.W. and pre-school session. Each mother taken aside for individual counselling on her specific problem.

Film Shows: were arranged during session day. 8 films were shown.

#### Health Education in the Rural Sub-Centres:

Group Talks: were given during the sessions in the sub-centres which covered all subjects dealt with in the main centre except those concerning pregnancy.

Individual Advice: was given to mothers needing it and not universally. This was due to shortage of staff which made the individual counselling impossible.

#### Clinic Visit:

The rural clinics were visited with an aim of promoting health education in the rural communities. These act as subsidiary centres to the main Public Health Units.

Group talks are given by clinic nurses, though due to the shortage of staff this sometimes fails. The clinics were also supplied with the various leaflets and posters.

Swaziland Show: Swaziland Show "Theme" Nutrition of Child and Adult.

#### Co-ordination:

Many invitations were received from other departments and Ministries to give health talks to different groups such as students, group of rural men and women and to many others.

R.F.M. Hospital: Formal lectures were given to fourth year students. These covered Public Health Nursing, Nutrition and Health Education.





## 2. Ministry of Agriculture - Dept. of Home Economics:

- (a) Lectures were given at Ngonini Lutheran Farmers Training Centre to young women who were doing a course in domestic science and sewing. 20 lectures were given which covered communicable diseases, nutrition diseases and personal and environmental hygiene.
- (b) Health talks were given to rural farmers and Home Economics groups at their request. In all six talks were given.

## 3. St. Theresa's Girls High School:

The Principal of St. Theresa's Manzini invited the Health Education Unit to give talks on :-

- (a) Common communicable diseases.
- (b) Venereal diseases.
- (c) Personal hygiene.
- (d) Malnutrition - Kwashiorkor.
- (e) T.B.
- (f) Sex Education.

## 4. Swaziland Police College:

Formal health lectures were given to male police officers at the Swaziland Police College.

- (a) Anatomy of the reproductive organs.
- (b) Pregnancy.
- (c) Nutrition.
- (d) Review of Health Services in Swaziland.
- (e) Venereal diseases.

## 5. The Gcina Youth Camp:

Lectures on health subjects were continued as the previous years to the youths of this camp. These were done alternate Tuesdays.

6. At a Seminar of social welfare officers and community development officers, one of the members of Health Education Unit attended and gave a talk.

## VISUAL AID - PRODUCTION

This was carried out by our artist. These visual aids were distributed to our health centres and rural clinics. 200 posters of Food Groups were produced by a certain firm. These were distributed to our rural clinics.

## RADIO TALKS

Only a few radio talks were done.

We managed to record 5 talks which were broadcast over the women's programmes.





Remarks:

- (a) The Health Education Unit would function better with additional transport and staff which is for health education. Its progress is retarded by shortage of staff and transport. The present staff and transport becomes absorbed by the public health nursing Unit.
- (b) On the whole our people appreciated the work done by the Unit. This is revealed by interest observed during the group talks, and the general improvement noted in the children that visit our centres.

Total population covered by this Unit: -

Men	-	735
Women	-	4,604
Children	-	2,521

See next page for total attendances



SWAZILAND GOVERNMENT  
PUBLIC HEALTH UNIT

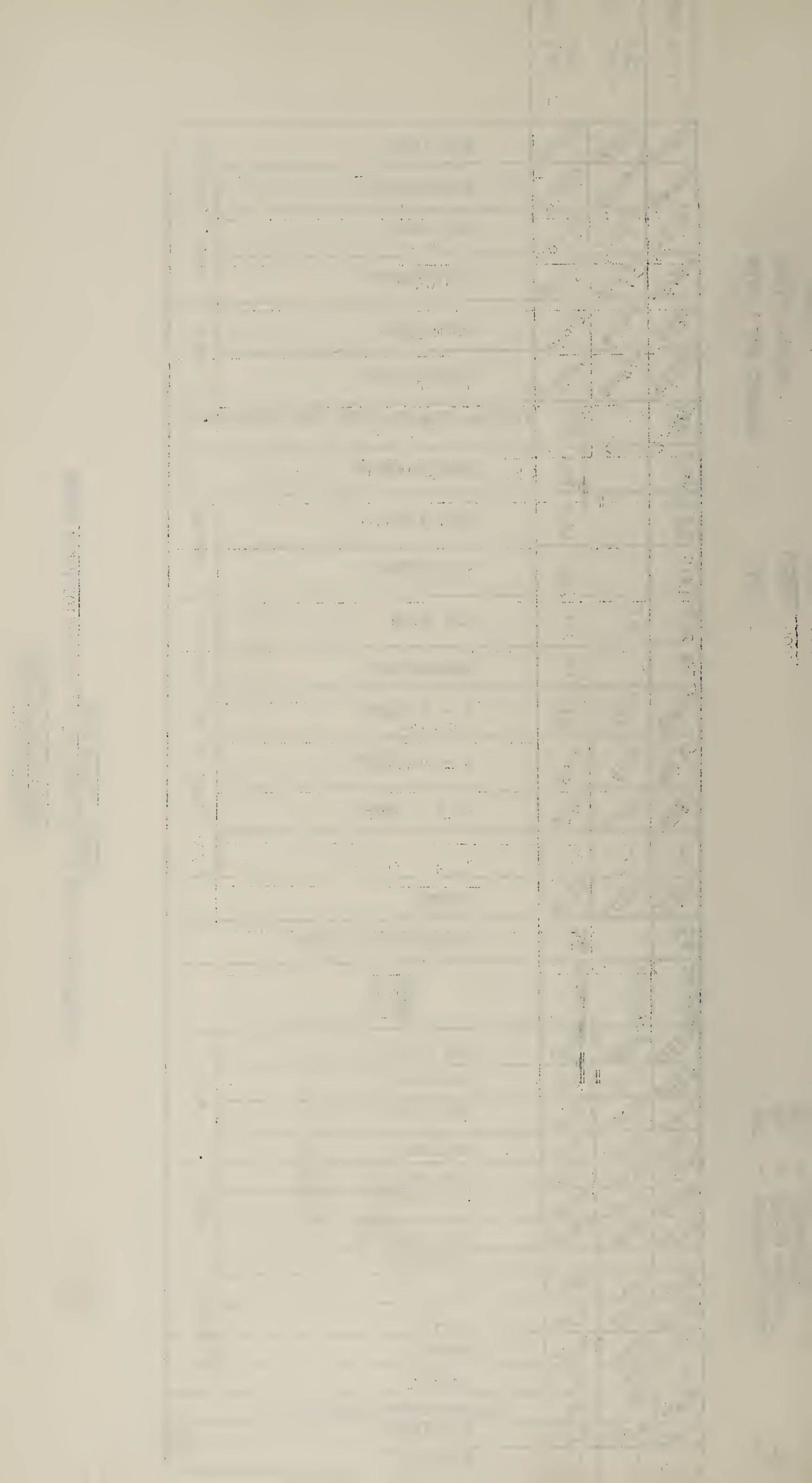
GRAND TOTALS - JANUARY - DECEMBER 1972 - MAIN SUB CENTRES  
PLUS RURAL CLINICS

A.I.C.	NEW CASES		4506	15000	3171	ATTENDANCES		29640	1592	22547	MEDICAL EXAMINATIONS FOR SCHOLARSHIP		138	504	539	118	11	61	1883	1173	6656	-	4869	54	93482	23302	2171	1824	46	3789	2313	1963	254	1456	1699	12	146	62	-
	ATTENDANCES		15000	3171	29640	1592	22547	138	504	539	118	11	61	1883	1173	6656	-	4869	54	93482	23302	2171	1824	46	3789	2313	1963	254	1456	1699	12	146	62	-					
C.W.	NEW CASES		5587	18499	5979	ATTENDANCES		59391	4403	47309	CHOLERA		138	504	539	118	29	-	759	353	1226	-	12951	54	155602	3028	1769	1340	153	3562	2110	1334	145	1047	1346	29	811	458	-
	ATTENDANCES		18499	5979	59391	4403	47309	138	504	539	118	29	-	759	353	1226	-	12951	54	155602	3028	1769	1340	153	3562	2110	1334	145	1047	1346	29	811	458	-					
P.S.	NEW CASES		10093	33843	9150	ATTENDANCES		89031	5995	69856	T.A.B.		40	61	2642	1526	1882	-	17820	54	249084	6330	3946	3164	199	1351	4423	3297	409	2503	3045	41	957	520	-				
	ATTENDANCES		33843	9150	89031	5995	69856	40	61	2642	1526	1882	-	17820	54	249084	6330	3946	3164	199	1351	4423	3297	409	2503	3045	41	957	520	-									
TOTAL		TOTAL ATTENDANCES		10093	33843	9150	89031	5995	69856	138	504	539	118	29	61	2642	1526	1882	-	17820	54	249084	6330	3946	3164	199	1351	4423	3297	409	2503	3045	41	957	520	-			
SUB JAN - DEC		SUB JAN - DEC		4506	15000	3171	29640	1592	22547	138	504	539	118	11	61	1883	1173	6656	-	4869	54	93482	23302	2171	1824	46	3789	2313	1963	254	1456	1699	12	146	62	-			
JAN - DEC.		JAN - DEC.		5587	18499	5979	59391	4403	47309	138	504	539	118	29	-	759	353	1226	-	12951	54	155602	3028	1769	1340	153	3562	2110	1334	145	1047	1346	29	811	458	-			
GRAND TOTAL		GRAND TOTAL		10093	33843	9150	89031	5995	69856	138	504	539	118	29	61	2642	1526	1882	-	17820	54	249084	6330	3946	3164	199	1351	4423	3297	409	2503	3045	41	957	520	-			

MAIN + SUB CENTRES 93482  
RURAL CLINICS 155602  
TOTAL 249084

ANC = ANTENATAL CASES  
CW = CHILD WELFARE  
PS = PRE-SCHOOL  
DPT = DIPHTHERIA, TETANUS AND WHOOPING COUGH





ENVIRONMENTAL HEALTH SERVICES REPORT FOR 1972 - PUBLIC HEALTH  
INSPECTORATE DIVISION

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It is pertinent to give a background to the common problems encountered during the year under review to the attainment of a satisfactory improvement of the human environment both in the five small town boards and their respective rural surroundings falling under the supervision of the health inspectors and their health assistants. These may briefly be summarised as follows:-

- (a) STAFFING:- The instability of staff has affected three of the four districts. Whereas in the senior staff group resignations of officers on contract has been attributable to desires to return for service in their own countries of origin the resignations of the junior staff was due to the attraction to posts offering higher salaries. In these regards we have lost two health inspectors and two health assistants. Though, with difficulty the posts of health inspectors have by now been filled, this has had to involve a great deal of time in orientation work. For meaningful and adequate extension of services the present staff is placed at a great disadvantage. The lack of an infra-structure in the form of semi-skilled artisans does not make the work any easier. The overall supervisory aspects of the districts by a senior officer can only be achieved when there is adequate staff. It is again necessary to re-iterate that a compliment of eight health inspectors and sixteen health assistants - an increase of three health inspectors and eleven health assistants - would be the ideal situation.
- (b) TRANSPORT:- This has been a thorn in the flesh. The old vehicles in use have naturally had numerous breakdowns and the periods of time spent at the repair shops have had their adverse effects on progress.
- (c) HOUSING FOR JUNIOR STAFF:- While every effort is being made to recruit the junior cadre of personnel from their respective districts all in an attempt to overcome to some extent the housing problem the nature of the work does and particularly under the present staff shortage required a considerable amount of movement to enable the staff to meet and satisfy the aspirations of the communities. Because community responses do not follow a set pattern such movement become very imperative.

It is against the foregoing brief background that the following environmental report is given in respect of :-

1. COMMUNICABLE DISEASE CONTROL:-

- 1.1 INCIDENCE: The incidence of communicable diseases as shown below is not arbitrary as apart from the fact not all cases of communicable diseases reach the notifying agents i.e. hospital and clinics, notifications by some private agencies is as yet not observed.

On the whole the occurrence of communicable diseases has not reached epidemic proportions. This is, however, no cause for complacency. The need for the notifying agencies to give the required information when submitting the returns needs no further emphasis. Where need for mass immunisation found this was carried out and figured as shown later in this report, bear testimony to this remark.





1.2 POLIOMYELITIS:- Immunisation against this disease has continued at the various clinics, health centres and sub-centres under the guidance of the M.C.H. division of the Public Health Unit. Although we have received four (4) notifications this year as compared to nil last year this figure would against the twenty-four (24) of 1970 and a mortality rate of nil is not frightening.

	<u>CASES</u>	<u>DEATHS</u>
1968	13	Nil
1969	7	1
1970	24	Nil
1971	Nil	Nil
1972	6	Nil

DIPHTHERIA:- The incidence of this disease dropped by 50% from last year's figure. Immunisation of the vulnerable group at the appropriate age is being carried out at the various clinics, health centres and sub-centres.

	<u>CASES</u>	<u>DEATHS</u>
1968	9	2
1969	1	Nil
1970	2	"
1971	8	"
1972	4	"

MENINGITIS:- There has been a 40% drop in the occurrence of this disease this year as compared to last year. The mortality rate decreased by 35%.

	<u>CASES</u>	<u>DEATHS</u>
1968		
1968	39	9
1969	24	4
1970	-	-
1971	127	8
1972	52	3

ENTERIC FEVER:- The remarkable drop in the incidence of this disease which, ten years ago, was approaching an endemic level is very encouraging. A contributory factor to this drop is the fairly extensive work that has been done in the improvement of the domestic water supplies especially in the rural areas. A comparative analysis of the occurrence of the disease over the past seven years is shown below.

	<u>CASES</u>	<u>DEATHS</u>
1966	239	19
1967	139	6
1968	114	9
1969	112	1
1970	314	7
1971	252	1
1972	82	4

ANALYSIS:- A detailed analysis of the reported cases of the above diseases for the year under review is given overleaf. As a result of delays in certain instances in the forwarding of the notifications and the insufficiency of the information given on the notification returns, it will be observed that in certain columns the area names are not given. This omission, it is hoped, will in future be rectified by the authorities concerned.



MHOHO DISTRICT			MANZINI DISTRICT			SHISELENI DISTRICT			LUBOMBO DISTRICT		
(i) Polio	No. of	No. of	Area name	No. of	No. of	Area Name	No. of	No. of	Area Name	No. of	No. of
Name of Area	cases	Deaths		cases	Deaths		cases	Deaths		cases	Deaths
Mbabane	4	Nil	Nil	Nil	Nil	Nhlangano	1	Nil	Nil	Nil	Nil
Pigg's Peak	<u>1</u> 5						<u>1</u>				
(ii) Diphtheria											
Mbabane	1					Thunzini	1				
Pigg's Peak	<u>1</u> 2	Nil	Nil	Nil	Nil	Zombode	<u>1</u> 2		Nil	Nil	Nil
(iii) Meningitis											
Mbabane	33	Nil	Manzini Luve Sgombeni ?	4 3 1 1	1	Kubuta Hlatikulu Matanjoni Mhlosheni Msongweni Lavumisa Stobeleni Nhlangano	3 1 11 1 1 1 1 1 1	2	Nil	Nil	Nil
	<u>33</u>			<u>9</u>	<u>1</u>		<u>10</u>	<u>2</u>			
(iv) Enteric Fever											
Mbabane	24	1	Manzini Maliyaduma Kwaluseni Nhlabeni Masundwini Etsheni Lozitha Lobamba	3 3 2 3 3 4 1 1		Hluti Nhlangano Mashobeni Maloma Kubuta Ebenezer Stobela Spofaneni	(8) 6 4 2 2 2 2 1	; Nil	Siteki Vuvulane Tshaneni Mpolonjeni Tabankulu	7 2 1 1 1	Nil





LUBOMBO DISTRICT

x N.B. It will be observed that under Shiselweni District (iv) that eight (8) cases of typhoid were reported from Hluti area. Further detailed laboratory findings, however, were non-conformatory. The illness was diagnosed as "food poisoning".

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## 2. IMMUNISATIONS AGAINST COMMUNICABLE DISEASES

With Health Centres at three of the districts already operating co-ordination between the Public Health Unit (Nursing) and the Health Inspectors division has resulted in concerted action in immunisation campaigns against communicable disease. Priority has always been placed on areas where investigations warranted such immunisations. A strenuous factor however, has been inadequacy of staff and poor transport. Areas done were:-

<u>DISEASE</u>	<u>AREA</u>	<u>1ST DOSE</u>	<u>2ND DOSE</u>	<u>3RD DOSE</u>	<u>TOTAL</u>
DIPHTHERIA	DUDUSINI/	87	66	54	
	MAGUBHELENI				
	MPCPOTA	33	23	22	<u>431</u>
TYPHOID	MASHOBENI	31	30	-	
	KONTSHINGILA	84	49	-	<u>194</u>
SMALLPOX	SITEKI	855	-	-	<u>855</u>
B.C.G.	SITEKI	232	-	-	<u>232</u>

## 2. SEWAGE DISPOSAL:

Sewage disposal in the urban areas under the control of the Ministry of Health is mainly water-borne. Except for the two Town Councils (Manzini & Mbabane) where either the conventional type of disposal or the septic tank/french drain arrangements are in satisfactory operation, the Manzini town is operating on the Oxidation Pond system. The latter arrangements is operating at the Matsapha Industrial area as well. All approved building plans for new premises in the urban areas have to adopt the water-borne carriage system for the disposal of sewage. Of the 50 houses in the Siteki, Nhlangano, Hlathikhulu urban areas the conversion to water-borne carriage system has been gradual. Seven in the Nhlangano, three in Hlathikhulu have converted. The bulk of the users of the conservancy system are Institutional Establishments where such services are retained for security reasons.

While a number of sewage loads lifted by the vacuum tanker dropped as a result of numerous vehicular breakdowns and the long periods this vehicle had to spend at the workshop while spares were awaited, it is also true that quite a great deal of sewage had in the previous year been lifted from old septic tanks and this resulted in the reduction of the number of requests. With the increase in industrial developments and construction of self-contained sewage disposal arrangements for individuals projects an increase in the demand for services is forecast. The expected new vacuum tanker will undoubtedly be a great relief. The request for services are as detailed on the next page.



# VACUUM TANKER SERVICES 1972

## 1. HHOHHO

(a) MBABANE SUB-DISTRICT:	Urban Area	=	55 loads	199
	Rural Area	=	64 "	
(b) PIGG'S PEAK "	Urban Area	=	14 "	22
	Rural Area	=	8 "	

## 2. MANZINI

(a) MANZINI SUB-DISTRICT	Urban "	=	15 "	75
	Rural "	=	60 "	
(b) MANKAYANE "	Urban "	=	6 "	6
	Rural "	=	Nil	

## 3. LUBOMBO

Urban "	=	20 "	24
Rural "	=	4	

## 4. SHISHLWENI

(a) NHLANGANO	Urban "	=	59 "	59
	Rural "	=	Nil	
(b) HLATIKULU	Urban "	=	11 "	11
	Rural "	=	Nil	

## 5. LAVUMISA

(a) GOLLEL	Urban "	=	9 "	11
	Rural "	=	2 "	

TOTAL LOADS =

327

Public latrine - of which there are two in the Pigg's Peak, two in the Nhlanguano, two in the Hlatikulu and two in the Siteki urban areas - have operated rather on an unsatisfactory state of hygiene mainly as a result of numerous blockages. This state of affairs largely due to the non-provision of suitable cleansing paper. If conditions are to improve there would have to be an increase in the 'township gang' so as to make it possible for the detailing of one of such men to carry out stricter control and economic distribution of suitable toilet paper for use in such comfort stations.

Of the schools that have toilets there have been no problems at those schools that employ the pit-type of sanitary facilities. Infrequently problems did arise from some schools using the water-borne sewerage system but again here the problems associated with the non-provision of suitable cleansing paper resulting in unwarranted blockages.

The campaign regarding the provision of pit privies in the rural areas for individual homesteads has not made much progress owing to lack of appreciation of the value of such an innovation and shortage of staff to mount a meaningful health education campaign. The following areas have been provided with toilet slabs.





SHISELWENI:

NEW HAVEN AREA	=	17
MBUKWANE "	=	
MAHLANDLE "	=	10
MAHLASHANENI "	=	2
GEGE "	=	3
MAGUBELENI "	=	2
MAKHONZA "	=	1
MAKHOSINI "	=	2
SIVULE "	=	1
NSALITSHE "	=	1
NSONGWENI "	=	<u>3</u>

42

HHOHHO

MOTSHANE AREA	=	14
EZULWINI "	=	11
LOBAMBA "	=	<u>9</u>

34

MANZINI:

ZOMBODE	=	3
MALIYADUMA	=	2
NKILIJJI	=	1
LUYENGO	=	<u>4</u>

10

TAPEWORM INFECTION:

A breakdown of the reported cases of tapeworm infection as received from the reporting agencies is given over the following pages. It is hoped that following on this analysis a positive response to the problem might be stimulated at various levels. Although the figures are not absolute in that some cases may be treated by private concerns and thus not be reflected on this report, the gravity of the situation as will be observed on closer study calls for operation on a national scale.





HHOHO DISTRICT (NORTH)

Legend: PP - Pigg's Park Hospital

HR - Horro

LR - Lester's

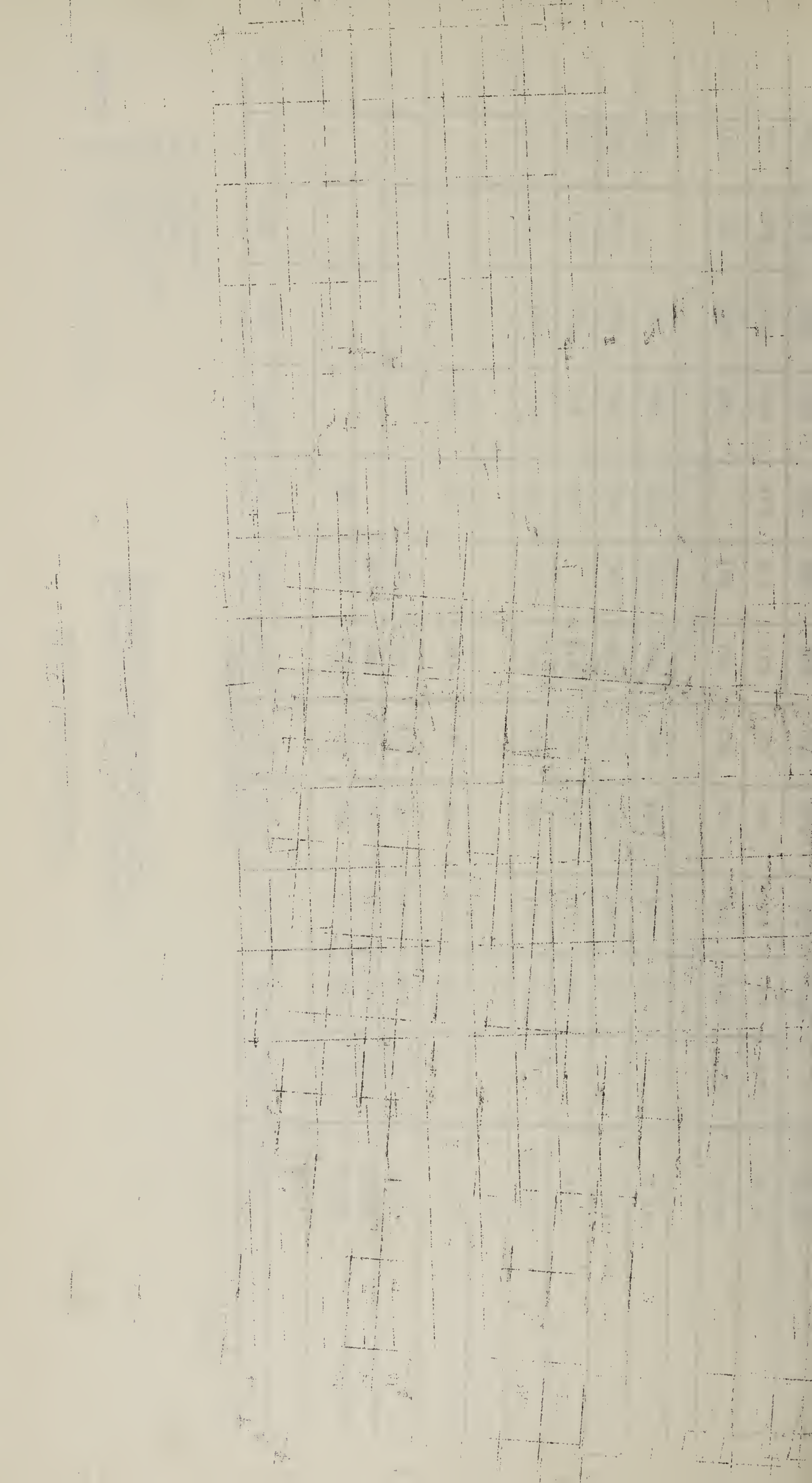
MH - Mhlangatane

NK - Nkaba

BL - Bulandeni

Incidence of Tapeworm Infestation  
Record from Reporting Agencies

PIGG'S PEAK HOSPITAL													
YEAR	JAN	FEB	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1969													PP
					4HR	2HR	6HR	4HR	8HR	3HR	2HR	3HR	32 HR
						8MH	4MH	2MH	6MH	4MH	7MH	4MH	35 MH
					3LR	5LR	4LR	4LR	5LR	4LR	5LR	8LR	38 LR
				1NK	3NK		2NK	1NK	2NK	4NK	4NK		17 NK
1970													PP
	4HR	45HR	121HR	2HR	4HR	2HR	4HR	2HR	5HR	3HR	4HR		196 HR
	4LR	1LR	2LR	7LR	6LR		8LR	3LR	6LR	6LR	6LR		49LR
	5MH	6MH	6MH	4MH	2MH	1MH	2MH	4MH	2MH	3MH	2MH		37 MH
	28NK		3NK	4NK	2NK	4NK	3NK	3NK	4NK	4NK	4NK		58 NK
1971													
	1HR	3HR	3HR	2HR		2HR	1HR	2HR	5HR	3HR	3HR	6HR	32 HR
	8LR	6LR	2LR	2LR	4LR	4LR	3LR	5LR	4LR	3LR	3LR	6LR	50 LR
	6MH	2MH	2MH	1MH	3MH	3MH	5MH	5MH	2MH	8MH	2MH	-	39 MH
	3NK	11NK	2NK	3NK	5NK	3NK	4NK	5NK	1NK	5NK	5NK	-	47 NK





# HHOHO DISTRICT (CENTRAL)

## INCIDENCE OF TYPHOID INFESTATION - RECORD FROM REPORTING AGENCIES

Send: MB - Mbabane Hospital  
LC - Lobamba Clinic  
EC - Eluengweni Clinic  
NR - No Report

MBABANE HOSPITAL													
YEAR	JAN	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV?	DEC.	TOTAL
1969				10MP				11MB					22MB
											2LC	NR	2LC
1970			29EC	10EC	25EC	21EC		21EC	24EC	13EC	11EC	NR	185EC
													MB
	7LC					2LC		1LC	1LC	3LC	1LC	10LC	25LC
	10EC	12EC	30EC	22EC	20EC	24EC	18EC	12EC	10EC	12EC		9EC	179EC
1971													MB
	2LC		24LC		10LC	8LC	14LC	3LC	6LC	12LC	18LC	14LC	114LC
	10EC	14EC	18EC	10MB	12EC	10EC	16EC	20EC	28EC	24EC	20EC	26EC	202EC
1972													MB
	6LC				10LC	3LC	6LC	4LC	4LC	12LC	3LC	8LC	56LC
				12EC	10EC	16EC	20EC	18EC	10EC	16EC	12EC		111EC



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INCIDENTS OF PASSPORT INTERSECTION - RECORD FROM REPORTING AGENCIES

Legend: GSH - Good Shepherd Hospital  
 N - Nomashasha  
 ML - Mlawula  
 KL - Kalandga  
 MG - Magamba  
 NG - Ngoina  
 MP - Mjabayi  
 ST - Statwenti

YEAR	JAN	FEB	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC	TOTAL
1969	-	-	-	-	-	4GSH 2N	-	-	2N		2N		4GSH 6N
1970	2GSH 4N	4N	1GSH 2N	1GSH 7N	5GSH 1N	1GSH 2N	8N	3GSH 5N	3GSH 6N	3GSH 5N	1GSH 5N	10N	20GSH 59N
1971	3GSH 5N	2GSH 8N	1GSH 5N		4GSH 1N	4GSH 1N 1ML	4GSH 1N	4GSH	3GSH 1ML	2GSH 1ML	3GSH 6N 1ML	2GSH 6N	29GSH 38N 9ML 5KL
1972	3GSH 4N	3GSH	4GSH	2GSH 2N	3GSH 4N	3N	2GSH 2N	1GSH 3N 1ML	4N	2N	4N	4N	18GSH 32N 1ML





MANZINI DISTRICT (UNSPECIFIED)

INCIDENCE OF TAPENORM INFECTION RECORD FROM REPORTING AGENCIES

YEAR	JAN	FEB	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1969	-	11	8	-	-	7	-	6	5	6	4	8	55
1970	2	3	12	4	2	4	4	6	6	2	4	8	57
1971	6	3	2	4	2	-	2	2	2	2	2	-	27
1972	2	2	-	2	3	4	-	-	-	-	-	-	15



MANZINI DISTRICT

INCIDENCE OF TAPEWORM INFESTATION - RECORD FROM REPORTING AGENCIES

Legend: MK - Mankayane  
MG - Mgazini  
MC - Mangcongco  
ND - Ndlinilembi  
ML - Mahlanguatsha  
DL - Dwailile

YEAR	JAN	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG	SEPT.	OCT	NOV.	DEC	TOTAL
1969	-	-	-	-	3MC	2MC	-	-	-	-	-	-	5MC
1970	-	-	-	-	-	-	-	-	-	-	-	-	MK
	-	-	-	-	-	-	-	-	-	-	-	-	MG
	1MC	-	-	-	-	-	-	-	1MC	-	-	-	2MC
	-	-	1ND	-	-	-	-	-	-	-	-	-	1ND
	-	-	-	-	-	7ML	-	-	-	1ML	-	-	8ML
1971	-	-	-	-	-	3MK	-	-	-	-	-	-	3MK
	-	-	-	-	-	-	-	-	-	-	-	-	MG
	2MC	1MC	2MC	-	1MC	-	-	2MC	1MC	1MC	2MC	-	12MC
	-	-	-	-	-	-	-	-	-	-	-	-	ND
	-	-	-	-	-	-	-	-	2ML	-	3ML	1ML	6ML
1972	-	-	-	-	-	-	-	-	-	-	-	-	MK
	-	-	-	-	8MG	-	-	-	-	-	-	-	8MG
	-	1MC	1MC	2MC	5MC	-	2MC	-	4MC	-	-	-	15MC
	-	-	-	-	-	-	-	-	-	-	-	-	ND
	1ML	-	3ML	1ML	1ML	1ML	4ML	1ML	1ML	2ML	1ML	1ML	17ML





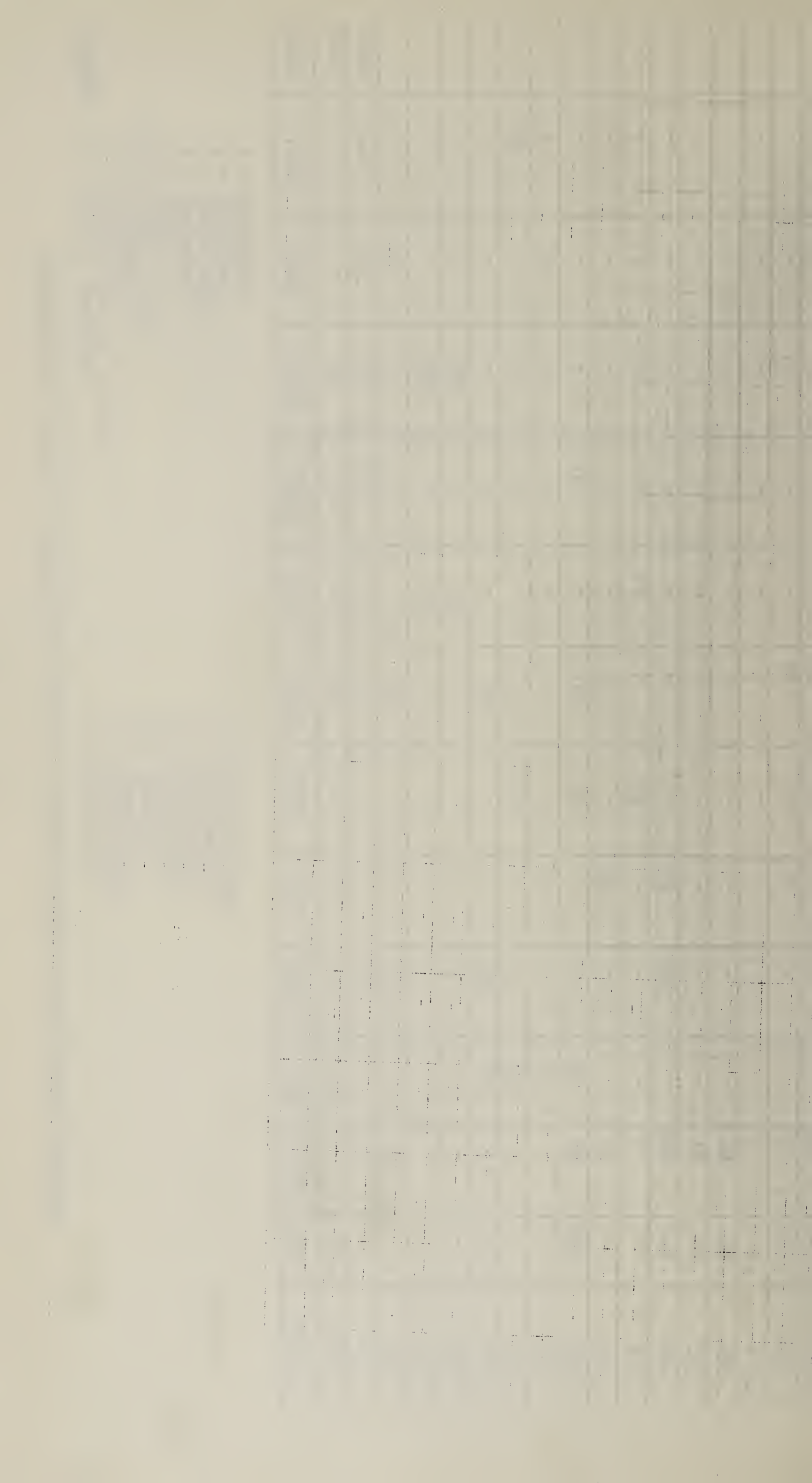
# THE JESUITES

INCIDENCE OF TAPEWORM INFESTATION RECORD OF TREATED CASES AT THE VARIOUS CLINICS

Legend:

- |   |   |                      |   |   |              |
|---|---|----------------------|---|---|--------------|
| A | - | R.F.M. Hospital      | J | - | Mayiwane     |
| B | - | Siteki Health Centre | K | - | Tambankulu   |
| C | - | Endingeni            | L | - | Tembelihle   |
| D | - | Pigg's Peak          | M | - | Shewula      |
| E | - | Mliba                | N | - | Esigcaweni   |
| F | - | Mafutsheni           | O | - | Bekinkosi    |
| G | - | Engculwini           | P | - | Malandzela   |
| H | - | Balegane             | Q | - | Mshingishini |
| I | - | Malindza             |   |   |              |

YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1969	-	-	5A	1A	3A	1A	1A	1A	2A	4A	-	3A	21A
1970	3A	1A	4A	21A	2A	3A	-	-	3A	-	1A	-	38A
	-	-	-	-	-	2B	-	-	1B	-	2B	-	5B*
	-	-	2C	-	1C	-	-	-	-	-	-	-	3C*
	-	-	1D	-	1D	-	-	-	-	-	-	-	2D*
	-	-	-	-	-	1E	-	-	2E	1E	1E	1E	6E
	1F	-	-	-	-	-	1F	-	-	2F	-	-	4F
	-	1G	-	-	-	-	-	-	-	1G	-	-	2G
	-	-	-	1H	-	1H	2H	-	-	1H	3H	3H	11H*
	-	-	-	-	-	2I	-	2I	-	-	2I	-	6I*
	1J	1J	1J	-	1J	-	2J	-	-	-	-	-	8J*
	-	-	-	-	-	-	-	6K	16K	-	20K	14K	56K*
	-	-	-	-	-	-	-	-	-	-	1L	1L	2L*
	-	-	-	-	-	-	-	-	-	-	3N	2N	5N
	-	-	-	-	-	-	-	-	1 O	-	-	-	1 O
	-	-	1A	-	-	3A	1A	1A	-	-	-	2A	8A
	-	-	-	-	-	1B	1B	-	-	-	1B	1B	4B*
	-	-	-	-	-	-	-	-	-	-	1D	-	1D*





MANZINI DISTRICT CONTINUED

YEAR	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1971	2D 1F -	2D - -	1F 1F 1G	3D 2F -	- - -	1F - -	- - -	- - -	- 1F -	- - -	- - -	- 2F -	7E 7F 1G
	3H 2I	3H 2I	1H -	1H 1I	1H 2I	- 1I	1H -	2H 1I	1H -	- 1I	- -	- 1I	13Hx 11I x
	1J	-	-	-	1J	3J	1J	-	-	-	-	1J	7Jx
	10K	-	5K	12K	14K	10K	-	14K	10K	12K	23K	19K	119K x
	1L	-	-	-	-	1L	-	1L	1L	2L	-	1L	7Lx
	-	-	-	-	-	-	-	-	-	-	1M	-	1M
	-	1M	-	1M	1M	-	-	-	-	-	-	-	3N
	-	-	-	1A	1A	-	1A	2A	1A	2A	1A	-	7A
	-	1B	5B	1B	-	1B	4B	2B	3B	1B	1B	-	19B x
1972	-	1D	1D	-	-	-	-	-	-	-	-	-	2Dx
	1E	-	-	1E	-	-	-	-	-	-	-	-	2E
	1F	1F	-	1F	1F	-	-	-	1F	-	-	1F	6F
	3H	-	1H	3H	-	6H	3H	3H	1H	2H	1H	2H	25H x
	2I	-	-	1I	-	-	-	-	-	-	-	-	3I x
	-	1J	-	-	3J	-	-	-	-	-	-	-	4J x
	15K	11K	-	8K	23K	-	16K	14K	15K	14K	14K	24K	154K x
	-	1L	-	-	1L	-	-	-	-	-	-	-	2L x
	-	-	-	-	-	-	-	-	-	-	-	3M	3M
	-	-	-	2N	-	-	1N	-	-	-	-	-	3N
	-	-	-	-	3O	-	-	-	-	-	-	-	3O
	-	-	-	-	-	3P	-	-	-	1P	-	-	4P x
	-	-	-	-	-	1Q	-	-	-	-	-	-	1Q x



EXPLANATORY NOTES:

x This mark denotes cases which fall under the Northern Hhohho District.

X This mark denotes cases which fall under the L<sub>1</sub>bombu District

The figures without any denotation are for areas in the Manzini District.





## DISTRICT

## KEY

HL	-	Hlathikulu
NH	-	Nhlangano
HU	-	Hluti
ED	-	Edwaleni
LB	-	Lubuli
SP	-	Spoфанeni
ST	-	St. Phillips
GG	-	Gege
NW	-	New Haven

MH	-	Mahamba
MS	-	Mhlosheni
LS	-	Our Lady of Sorrows
LV	-	Lavumisa
SC	-	Sinceni
BH	-	Ebholi
JC	-	J C 1
NT	-	Ntshanini
MT	-	Mathanjeni

YEAR	MONTHS												TOTALS
	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT	NOV.	DEC.	
1969	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT	NOV.	DEC.	TOTALS
	9HL	12HL	9HL	2HL	-	6HL	5HL	6HL	11HL	10HL	6HL	6HL	82HL
	-	-	-	-	-	-	-	-	-	-	-	-	-
	6HU	1HU	2HU	1HU	3HU	3HU	4HU	6HU	5HU	4HU	12HU	8HU	55HU
	-	-	-	-	-	1ED	-	1ED	-	4ED	-	-	6ED
	7LB	13LB	8LB	12LB	9LB	5LB	6LB	5LB	7LB	6LB	11LB	8LB	97LB
	9SP	1SP	9SP	2SP	3SP	4SP	11SP	12SP	4SP	16SP	9SP	18SP	108SP
	-	3GG	1GG	3GG	3GG	1GG	2GG	1GG	1GG	4GG	2GG	-	21GG
	8ST	4ST	8ST	6ST	7ST	6ST	4ST	6ST	6ST	5ST	3ST	ST	66ST
	3NW	3NW	1NW	2NW	1NW	1NW	1NW	1NW	1NW	1NW	1NW	2NW	18NW
	2MH	1MH	-	-	-	-	-	2MH	2MH	2MH	-	1MH	10MH
	6MS	9MS	3MS	4MS	2MS	5MS	6MS	3MS	7MS	8MS	2MS	10MS	65MS
	7LS	19LS	8LS	3LS	3LS	-	-	6LS	6LS	4LS	6LS	4LS	71LS
	9LV	10LV	7LV	3LV	6LV	18LV	11LV	9LV	4LV	7LV	3LV	5LV	92LV





SHISELWENTI DISTRICT (Continued)

KEY;

HL - Hlathikhulu  
 NH - Nhlangano  
 HU - Hluti  
 ED - Edwaleni  
 LB - Lubuli  
 SP - Sipo faneni  
 ST - St. Phillips

GG - Gege  
 NW - New Haven  
 MH - Mahamba  
 MS - Mhlosheni  
 LS - Our Lady of Sorrows  
 LV - Lavumisa  
 SC - Sinceni

BH - Ebholi  
 JC - J C 1  
 NT - Ntshanini  
 NT - Mathanjeni

YEAR	MONTHS												TOTALS
	JAN	FEB	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT	NOV.	DEC.	
1970													
	7HL	9HL	9HL	9HL	12HL	1HL	5HL	1HL	5HL	7HL	9HL	14HL	88HL
	-	-	-	1NH	-	2NH	1NH	-	-	-	-	-	4NH
	25HU	13HU	17HU	11HU	6HU	11HU	4HU	13HU	15HU	14HU	8HU	17HU	154HU
	-	1ED	2ED	1ED	3ED	-	1ED	1ED	2ED	-	1ED	-	12ED
	14LB	20LB	5LB	5LB	8LB	5LB	10LB	16LB	17LB	6LB	12LB	39LB	157LB
	14SP	7SP	5SP	4SP	4SP	7SP	9SP	8SP	6SP	13SP	4SP	7SP	88SP
	1GG	-	1GG	-	1GG	2GG	1GG	1GG	1GG	3GG	-	1GG	12GG
	-	1ST	2ST	6ST	4ST	3ST	4ST	5ST	3ST	-	4ST	10ST	42ST
	1NW	1NW	2NW	1NW	1NW	4NW	3NW	1NW	1NW	2NW	1NW	3NW	21NW
	1MH	2MH	1MH	2MH	1MH	1MH	2MH	-	-	-	-	1MH	11MH
	1OMS	1MS	2MS	7MS	3MS	3MS	2MS	1MS	2MS	2MS	-	-	39MS
	1OLS	4LS	4LS	7LS	10LS	10LS	10LS	5LS	10LS	13LS	6LS	6LS	95LS
	5LV	6LV	7LV	1LV	2LV	9LV	8LV	5LV	3LV	12LV	8LV	14LV	80LV
	-	-	-	-	-	-	9SC	5SC	3SC	5SC	3SC	1SC	25SC





## SHISELWENI DISTRICT (Continued)

KEY:

HL	-	HLUTIKULU
NH	-	NHLANGANO
HU	-	HLUTI
ED	-	ED/ALANI
LB	-	LUBULI
SP	-	SIPHOFANANI
ST	-	ST. PHILLIPS

GG - GEGE  
NW - NEW HAVEN  
MH - MAHAMB  
MS - MHLOSHENI  
LS - LAY OF SORROWS  
LV - LAVUMISA

SC	-	SINCENI
BH	-	EBHOLI
JC	-	J.C.C.1
NT	-	NTSHANINI
MT	-	MATHANJENI

[illegible]





INCIDENCE OF TAPEWORM INFECTION  
RECORD FROM REPORTING AGENCIES

LEGEND: HL - HLATHI      MH - MAHAMBA  
 NH - NHLANGANC      MS - MHLOSHENI  
 HU - HLUTI      LS - LADY OF SORROWS  
 ED - EDWALENI      LV - LAVUMISA  
 LB - LUBULI      SC - SINCENI  
 SP - SPOFANENI      BH - EBHCLI  
 DT - ST. PHILLIPS      JC - JC I  
 GG - GEGE      NT - NTSHANINI  
 NW - NEW HAVEN      MT - MATHANJENI

YEAR	JAN.	FEB.	MAR.	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
1972	13HL	9HL	4HL	2HL	4HL	11HL	9HL	-	-	-	-	-	52HL
	NH									1NH			1NH
	3HU	-	1HU	3HU	2HU	4HU	3HU	8HU	5HU	5HU	-	-	44HU
	2ED	1ED	1ED	-	1ED	-	2ED	3ED	-	1ED	-	-	11ED
	7LB	8LB	12LB	9LB	5LB	7LB	6LB	6LB	5LB	8LB	-	-	73LB
	3SP	6SP	25SP	31SP	19SP	31SP	47SP	41SP	37SP	30SP	-	-	270SP
	2ST	3ST	6ST	3ST	2ST	1ST	7ST	-	6ST	13ST	-	-	43ST
	1GG	3GG	2GG	-	1GG	-	1GG	1GG	-	1GG			10GG
	1NW	2NW	-	1NW	-	-	-	2NW	2NW	4NW	4NW	1	16NW
	1MH	-	1MH	-	-	2MH	3MH	1MH	2MH	2	-	-	12MH
	1MS	14MS	6MS	4MS	4MS	2MS	4MS	1MS	4MS	3MS	-	-	43MS
	-	2LS	5LS	4LS	10LS	3LS	4LS	4LS	3LS	5LS	-	-	48LS
	2LV	2LV	17LV	1LV	2LV	4LV	3LV	7LV	2LV	3LV	-	-	43LV
	6SC	-	6SC	2SC	3SC	4SC	1SC	4SC	8SC	6SC	-	-	40SC
	6BH	7BH	5BH	6BH	10BH	9BH	10BH	10BH	8BH	9BH	-	-	80BH
	2JC	4JC	-	4JC	2JC	2JC	1JC	2JC	1JC	-	-	-	18JC
	3NT	5NT	6NT	-	2NT	2NT	3NT	5NT	5NT	-	-	-	31NT
	40NT	25MT	40MT	13MT	24MT	10MT	10MT	45MT	40MT	80MT			347MT

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT  
RECEIVED  
JAN 10 1964

212



### 3. REFUSE DISPOSAL

3.1 The collection and disposal of refuse in the urban areas of Nhlanguano, Hlatikulu, Siteki and Pigg's Peak while falling under the direct control of the respective local authorities this Ministry acts in an advisory capacity only. The township 'gang' is responsible to an officer of the local authority. The general problem lies mainly with the absence of suitable and reliable vehicles for the efficient operation of this service. At their present stage of infancy these town boards, without finances of their own, are not in a position such as the already developed town councils of Manzini and Mbabane to provide the proper vehicles and adequate staff to operate these services. While the position may vary slightly with each Town Board it is an overall imperative that proper equipment should be provided for the satisfactory operation of this service so as to avoid the sometimes unavoidable encroachment on this service by private individuals or establishments.

3.2 Whereas in some of the fast developing industrial areas bordering on the urban areas the private disposal of refuse may still be well under control it may well be that now is the time to consider making provision for the extension of refuse removal services by the appropriate authorities to such areas so as to guard against possible future pollution of water/river courses. This provision could likewise be considered in respect of a communal sewage disposal site where a feasibility study has been carried out.

3.3 There is however, an appreciable difficulty encountered in the innocuous disposal of refuse at certain public places especially market places. While there are Market Committees in most of the market places outside the urban areas the control of the disposal of refuse at such establishments could be efficiently operated if Market Masters were appointed at each market by the appropriate authorities. It is no exaggeration to note that on a number of occasions the health inspectorate staff has had to supervise the cleaning up of miscellaneous refuse by the market staff holders at such markets. This operation has proved to be time consuming.

3.4 The disposal of domestic refuse in the rural areas is not controlled. Advice on the provision of refuse pits is given to the community especially at seminars. The general practice among the rural communities is to deposit refuse on the fields and this is ploughed into the soil at ploughing times. The problem of accumulation of refuse is thus minimal and at this stage does not warrant an extensive campaign more especially that homesteads are generally sparsely distributed. With the implementation of resettlement schemes, however, control will inevitably have to be introduced.

### WATER SUPPLIES

4.1 All the urban areas enjoy a treated and safe water supply. With the exception of Lavumisa which obtains its supply from the Republic of S.A. The raw sources of the supplies for the other towns are drawn from the territory's river. The control and management of the treatment plants and water sampling of these supplies is in the safe care of the Water Branch of the Ministry of Works and Power. The water samples for bacteriological analysis have revealed a high standard of quality water during the year under review.

4.2 The large Industrial areas in the Northern Bhebe and Lubombo Districts operate their own water treatment plants. The bacteriological analytical reports carried out by the Ministry of Works have shown a high standard of quality water.

There are, however, some fairly large industrial estates in the Northern Bhebe district (Pigg's Peak) whose bacteriological water analysis reports have given inconsistent results.





Advice on how to improve these water supplies were given and some improvements noted. With the new Health Office opened in Pigg's Peak during the year under review it is expected that regular checking and sampling will be more often carried out.

It is gratifying to report that following on repeated unsatisfactory bacteriological water analysis reports of the old water supply to the Lobamba Royal Residence the old supply was discarded and the village was eventually connected to the treated water supply drawn from the Mhlambanyathi river.

- 4.3 Water sampling for bacteriological analysis taken by the Health Inspectors during the year under review are as follows :-

MANZINI DISTRICT - 16

HHOHHO DISTRICT - 16

- 4.5 Work on the protection of rural water supplies in the four districts was carried out. This service is done on a community self-help basis with material provided through the Department of Community Development of the Ministry of Local Administration and advice and construction under the direction of this Ministry. The figures given below show the number of springs protected in the respective districts during the year under review.

SHISELWENI DISTRICT : 12 springs + 1 piped village water supply

MANZINI " : 6 springs + 1 piped village water supply

HHOHHO " : 7 " + 1 " " " "

LUBOMBO " : 10 " + -

#### HOUSING

- 5.1 Requests for the inspection of houses, institutions and 'compounds' for various structural defects and vermin infestations were received and attended to. Complaints relating to drainage problems are covered under "VACUUM TANKER SERVICES" in this report. The nature of the complaints received is shown in the table below:-

DISTRICT	Housing Struc- tural Defects	Cock- roaches :	Beetles	Fleas	Lice	Mos- quitoes	Bees	Bats	Ants	Rats
LUBOMBO	40	35	13	4	-	12	4	20	-	-
SHISELWENI	45	15	10	4	1	-	-	-	-	-
MANZINI	33	4	3	-	1	-	3	-	-	-
HHOHHO	38	28	15	4	-	4	1	2	2	12
	146	82	41	12	2	16	8	22	2	12

- 5.2 A total of thirty three industrial estates employees houses were inspected during the year under review to check on the conditions of housing and sanitation. There were 5 in the Shiselweni, 18 in the Lubombo and 10 in the Hhohho districts. With joint inspections of such premises by Officers from this Ministry and those from the Labour Department these inspections have produced the desired results in the improvement of the sanitary environment at some of the establishments inspected.





A great deal of work, however, still remains to be done.

A breakdown of the reported cases of platyhelminthes and nemahelminthes infection as received from the reporting agencies from various centres in the country is given overleaf. Tapeworm infection with its allied group of round worm infections is very much more pronounced. The debilitating effect such infection have on the human health of those affected and the disastrous effects on the country's meat marketing opportunities does call for a re-assessment of the adequacy of the human resources available for the control of this country-wide spread disease. It is also a significant observation that although there are a number of pigs reared in the rural areas often under such insanitary environmental conditions as are conducive to the infection and even spread of the disease, the exposure of pork for sale in the rural butcherries is rare. That such pigs do get slaughtered for home consumption without any inspection is an added problem.

## 6. FOOD IN RELATION TO DISEASE

6.1 ABATTOIRS AND MEAT INSPECTION:- In all the abattoirs in the urban areas including the Mbabane and Manzini abattoirs but excluding Mankayane and Lavumisa there are abattoirs under the supervision of the district Health Inspectors. In the Pigg's Peak urban area where there is only one butchery operating in the urban area but slaughtering outside the urban area, an interim arrangement for the inspection of the carcasses at the rural slaughter place was introduced last year. The inspection of the meat used as 'ration' meat for two industrial estates in the Pigg's Peak sub-district was also introduced during the year under review.

In the Mbabane district an inspection of the carcasses slaughtered at one of a well run butchery which though operating from outside the urban area and yet supplying meat into the urban area, was introduced.

In the Lubombo district two of the rural butcherries on the periphery of the urban area were brought under meat inspection control. In addition one of the largest rural abattoir averaging 800 beasts killed per annum - was brought under meat inspection control in this district. An additional three butcherries in the Big Bend area were brought under control during the year under review. It is relevant to remark that the meat thus inspected is sold to the Big Bend township and its surrounding agricultural estates the latter using the meat as 'ration' meat. Some of the carcasses are transported to as far afield as Malkerns and even Mbabane. The abattoir at Tshaneni has as yet not been brought under the control of this Ministry owing to a number of difficulties. For the time being inspection of meat at this establishment is under the Company's Management's abattoir attendant.

In the Manzini district the two butcherries on the periphery of the urban area have as yet not been brought under meat inspection control.

In the Shiselweni district meat inspection was carried out at the urban area abattoirs of Nhlengano and Hlatikulu.

A generally satisfactory standard of hygiene has been maintained at the butcherries in the country. In some of the rural butcherries, however, the problem of water supply has had its adverse effects. The licensees have been making great efforts to cart water to these premises. The provision of a running water supply has been possible in only half a dozen cases.

The schedule of the meat inspection done at the various slaughter places mentioned above is given over-leaf.





B O V I N E					S W I N E					S H E E P			
PLACE	Cattle Slaughtered	Passed	Rejected	Destroyed	Deep Frozen	Cooked	Pigs Slaughtered	Passed	Rejected	Destroyed	Sheep Slaughtered	Passed	
NHLINGANO ABATTOIR	643	604	29	14	-	15	2	2	-	-	189	189	
HLATIKULU ABATTOIR	232	222	10	1	-	9	4	2	2	2	-	-	
SITEKI ABATTOIR	460	449	41	11	30	-	26	24	2	2	18	18	
MATSHENTI- MA, LUBO- MBO	95	790	37	5	32	-	1	-	1	1	-	-	
MATATA LUBOMBO	14	12	2	-	2	-	-	-	-	-	-	-	
BOYD'S FARM ABATTOIR	160	150	10	2	-	8	-	-	-	-	-	-	
EZULWINI SLAUGHTER POLE	46	46	-	-	-	-	13	13	-	-	7	7	
GRAND TOTALS	2350	2275	65	23	10	32	46	41	5	5	214	214	

The conditions which warranted destruction or detention for freezing or other form of treatment such as cooking was in all cases the results of infestation of the carcasses with cystercercus Bovis. The same infection in a generalised state warranted the condemnation and destruction of the carcasses and their organs. Meat inspection was carried out at the National celebrations events. A list of portions of the carcasses that were destroyed and the reasons thereof is given overleaf.



7	Bovine kidneys	(hydronephrosis)
28	Boxes Livers	(Fasciola hepatica)
12	" "	(Abscesses)
4	" "	(lirrrosis)
19	" "	(echinococcus)
1	" "	(Angiomata)
77	Sheep Livers	(Stelesia)
2	Lungs	(echinococcus)
1	Lung	(C. lymphadenitis)
21	Lungs Hydated cysts	
10	Hearts	(Pericarditis)
4	"	(C. Bovis)
3	Cows Udders	(Mastitis)
5	Bovine heads	(C. Bovis)
5	" tongue	(C. Bovis)

A total of forty three (43) food shops in the Lubombo, 215 (including 24 non-food shops) in the Shiselweni 185 (including all the hotels and liquor licenced restaurants and Bottle Stores in the territory) and 78 in the Manzini Districts were carried out during the year under review. These inspections resulted in considerable improvements in the standards of hygiene especially in the big and fast developing hotel industry. The Liquor Licensing Board was instrumental in these improvements, of the hygiene standard of liquor licenced premises.

Some of these inspections resulted in the seizure and condemnation of unsound foodstuffs as is shown below:-

4 x	454 g.	tins	Saldanha Pichards	-	Rusted & Blown		
1 x	454	"	Glenryk	"	"	"	"
1 x	226 g.	"	Pearl Fruit Cocktail	"	"	"	"
17 x	1 lb	Lard	(Rancid)				
18 x	1 lb	ctn	fresh milk	(Putrid)			
6 x	425 g.	tins	Orchid meat balls	-	Blown		
1 x	250 g.	"	Gravy Vianna sausages	-	Blown		
5 x	110 g.	"	Prima Corned Beef				
16 x	15 ozs,	tins	Crossed Blackwell Chutney	-	Blown		
1 x	15 ozs.	"	Spaghetti	-	Blown		
2	raisoned cakes	-	(Mouldy)				
4 x	1 lb. 13 ozs.	Pilchards	in Tomatoe	(Blown)			
2 x	1 lb.	Lucky Star Fish	in Hot Chilli	(Blown)			
4 lbs.	12 ozs	Bov. heat	(C. Bovis)				
4 lbs.	15 ozs.	Beef	(Advanced decomposition)				
		(Short Ribs)					
18 lbs.	12 ozs,	Beef	(Shin)	(Advanced decomposition)			
41 lbs.	3 ozs.	Mixed pieces	of beef	(Advanced decomposition)			
36 1/4 lbs	Pork	(Mixed pieces)		"	"		
3 lbs	15 ozs,	Bov-Tongue		"	"		
16 lbs	2 ozs.	Brisket		"	"		
5 lbs	11 ozs.	Udder		"	"		
3 lbs	10 ozs	Omentum		"	"		
6 1/4 lbs	Pork	sausages		"	"		

## 6.2 MILK SUPPLIES

Most of the milk produced in the rural areas is "industrial milk." The fresh milk producers supplying the urban areas of Manzini and Mbabane are supervised by the Health Inspectorate staff of the Town Councils. Of copies of milk analysis reports received out of a total of 63 fresh milk samples taken 28 of these fell short of the acceptable health requirements for a good milk supply. This was the result of the detection of E.Coli (Eutamocba Coli) in the milk samples.

On the average the small producers delivering milk either directly to the customer or to restaurants produced a satisfactory milk supply. Difficulties were mainly with the milk from the country's one and only pasteurising plant. Inspections of the premises and advice given has resulted in appreciable improvement in the quality of the milk.





#### 7.1 BUILDING PLANS:

Building Plans in respect of the construction and/alterations to private houses, Institutions, factories, hotels etc. were received and scrutinised under the Building Act 34/68 and the Liquor Licensing Proclamation 30/64. A total of 95, 63, 9 and 3 Plans were processed in the Hhohho, Shiselweni, Lubombo and Manzini districts respectively during past year.

#### 8.1 NATIONAL CELEBRATIONS:-

The usual health services were provided at all the national events during the year under review.

#### 9.1 STAFF MEETINGS:-

This innovations which provided for a quarterly meeting of health Inspectorate staff to discuss health problems etc. was launched towards the middle of last year. Two meetings were held during the second half of last year.

#### 10.1 SEMINARS & HEALTH TALKS:

The annual show at Manzini where this Ministry is allocated a stand - which is rather on the small size and resulted in limitations by the responsible authorities as to our exhibits was operated rather under difficulty last year. Failure on the part of some of those responsible for the administration of the Fair to appreciate the importance of the need to utilise meaningful exhibits for the benefit of the rural areas was most disturbing and crippling.

Health talks were given at various levels in the districts. A total of 18 such sessions in the Manzini district, 10 in the Hhohho 13 in the Shiselweni district and 3 in the Lubombo districts were attended. Although people have shown varying interests, it would enliven these sessions if this Ministry could have a projector with which relevant slides could be shown whenever such health talks are held.





CHAPTER 6PRISON'S MEDICAL REPORT

As in previous years, the prisons were covered by regular visits by a medical officer, except on occasions when he was on leave or other relieving duties.

The duties performed include the medical examination of all newly admitted prisoners, cases of illness, numerous dental extractions and minor surgical procedures. In addition the public health standards are routinely examined and corrective recommendations made where necessary. A satisfactory standard has been maintained.

No major epidemics were experienced. Cases of typhoid were successfully treated.

Details of patient attendances are as follows :-

<u>Prison</u>	<u>Total cases seen</u>	<u>T.B. Cases</u>
Matsapha Central Prison	1,829	40
Women's Central Prison	1,013	2
Big Bend	384	1

Other prisons visited were those at Siteki, Sidwashini, Malkerns Juvenile, Nhlangano etc.



CHAPTER 7CENTRAL MEDICAL STORES.

This department deals with the purchase and issue of Drugs and dressing, hospital equipment and Staff Uniforms and protective clothing. In addition there is an inservice training section for the dispensers.

Certain preparations are also manufactured locally, for Hospital and Clinic use.

This Unit functions under two qualified Pharmacists. In recent years costs of drugs have spiralled up considerably and it is commendable to note that despite this, no patient has suffered because of inability to purchase any drug required for his treatment.

A new National formulary has been compiled as a guide to the drugs readily available at the Central Medical Stores.





CHAPTER 8.MENTAL HOSPITAL.

This is a 200 bedded hospital situated centrally at Matsapha. The average daily patient population fluctuates between 180 and 200.

A number of patients are non-citezens and because of their mental condition, information required for their repatriation to their countries of origin, makes it extremely difficult.

A lack of a resident psychiatrist is another draw-back and is partly responsible for the high relapse rate. However, plans are in hand for a short term consultant in Mental Health, to visit the country and advise on the rehabilitation of Mental patients. He is expected next year. Future plans for the recruitment of a resident psychiatrist and training of Mental Nurses, are also underway.

Facilities at this hospital are far from ideal and it is hoped in the near future to concentrate not only on the renovation of the buildings, but also on making provisions for various types of mental illnesses and facilities for children.

More will be said on Mental Health when the expect's report and recommendations have been published. Suffice it to say that the whole concept of Mental Health treatment os being revised in the light of discharging these people back into their communities, and eliminating the stigma that is attached to such patients, many of whom are harmless and indeed able to live adequately under the care of relatives.

It is indeed gratifying to note that 13 new staff houses (junior type) have been completed.





CHAPTER 9.HAVELOCK MINE HOSPITAL.

Number of Indigenous Population (neither employees nor their dependants)  
Treated at the Mine Hospital during 1972.

Number of admissions	- 293
" " Outpatients (new cases)	- 669
" " Outpatients (re-attendances)	- 807
In patient days	- 1,472
Daily number of in-patients	- 5,02

Annual Return of Vaccinations (1972)

(a) Primary Vaccinations	- 321.
Re - vaccinations	- 549.
(b) <u>Certificate Issued.</u>	
Primary	- 9
Re - vaccinations	- 549

The figures given under (a) are inclusive under (b).



CHAPTER 10

MEDICO-LEGAL EXAMINATIONS

These are done at the request of the Police.

MBABANE HOSPITAL

Post mortems	76
Assaults	435
Rape	26
Drunkenness	30

PIGGS PEAK HOSPITAL

Post mortems	30
Assaults (including rapes)	207

HLATIKULU HOSPITAL

Post mortems	52
Assaults	85

RALEIGH FITKIN MEMORIAL HOSPITAL

Post mortems	76
Assaults	471
Rapes	29
Sobriety and blood alcohols	16
Others	50

GOOD SHEPHERD HOSPITAL

Autopsies	35
Assaults and rapes	106
Blood alcohol	9





CHAPTER 11

RALEIGH FITKIN MEMORIAL HOSPITAL

SUBSIDISED HOSPITALS

1. HOSPITAL STATISTICS:

Admissions (Inpatients)	7,271
Deaths	266
Outpatients:	10,786
1st Attendance	
Reattendance	<u>30,697</u>
Total patients	49,020

Analysis of Patients

Full Pay Inpatients	495
Part Pay Inpatients	5,362
Full Pay Outpatients	3,052
Part Pay Outpatients	38,428
New born	1,414
Leper Colony	32

CLINICS:

	<u>Full Pay</u>	<u>Part Pay</u>
STEGI	142	9422
ENDINGENI	5	10221
PIGGS PEAK	-	14587
MLIBA	-	3588
MAFUTHENI	-	3474
ENGCUWINI	-	4388
BALEGANE	-	12553
MALINDA	-	3905
MAYIWANE	-	14873
THABANKULU	-	16240
THEMBELIHLE	-	3513
BHEKINKHOSI	-	11820
ESIGCAWENI	-	1131
MALANDELA	-	2362
SHEWULA	1	961
MTSHINGISHINGINI	-	15071

TOTAL	Full Pay	148
	Part Pay	<u>128107</u>

GRAND TOTAL 128,257

Nursing College

General Nursing Students:	1st year	12
	2nd year	14
	3rd year	6
	4th year	<u>14</u>
	Total	46

Midwives:

Senion	7
Junior	<u>7</u>
Total	14

Examination results:

Midwives	13 passed	(4merits)
Finalists	18 passed	(5 merits)

2. THEATRE:

(a) Number of operatpons:	Major	617
	Minor	1207





General Anaesthetice:

811

During 1971 -- 490 were recorded. During 1972 -- 811 generals have been recorded, during which some 819 procedures were performed: the breakdown is as follows:

Abdominal hysterectomy	22
Anterior, posterior repair	9
Closure of colostomy	1
Circumcision	14
Cholecystectomy	1
Caesarian Section	131
Bowel resection	9
Appendectomy	7
Aortic Aneurysm (Psuedo)	1
D & C Uterus	258
Dehissence of Wounds	2
Ectopic Pregnancy	7
Eneuciation of Eye	4
Excision of Cyst Lypoma, etc	14
Minor Urology	12
Splenectomy	3
Elevation of skull fx	2
Skin grafts	42
Various Orthopaedic procedures	112
Tubal ligations	50
Marsupislization Bartholin	2
Nephrectomy	1
Nephro-Lythotomy	2
Prostatectomy	4
Pyloroplasty & Vagotomy	6
Tonsillectomy, Adenoidectomy	20
Exploratory Laparotomy	24
Thoractotomy	2
Incision & Drainage of Abcess	11
Suturations of Lacerations	12
Repair of Hernia	8
Bronchoscopy	4
Tracheotomy	1
Repair of Sup. Venacava	1
Unilateral Oophorectomy	8
Muscle Biopsy	1
Lig and Stripping VV's	2
Burr Holes	1
Exc. Parotid Tumor	1
Haemorrhoidectomy	1
Full mouth extraction	1
Imperforate Anus	1
ZPlasty of Axilla	4
Implants from Fallopien tubes	1

I believe this shows, not only an increase in the number of cases done, but also an increase in the variety of cases done in the operating theatres this year at this hospital.

(b) Radiology

Number of X-Ray examinations	
(1) Radiographs	3071
(2) Screenings	2
Part pay Patients	2054
Full pay Patients	319
Total patients	2373



(c) Medical Legal Services on behalf of Royal Swazi Police

Autopsies		76
Assaults	471	
Rapes	29	500
Sobriety and Blood Alcohol		16
Mental Cases		94
Accidents		11
Criminal Abortions		8
Others		<u>31</u>

TOTAL 736

(d) Laboratory

Hb	2596
Wbc	1096
Differential counts	816
RBc	24
ESR	81
Hct	711
Plateletes	13
Retic's	4
Malaria	65
Prothrombin time	27
Bleeding time	16
Clotting time	13
Blood group	591
X Match	691
Transfusion	696
Blood Urea	52
Blood sugar	148
S.G.O.T.	27
Serum Bilirubin	20
Glucose Tolerance	5
Red Cell Morphology	11
Serum Amylase	3
Blood Donors	43
Blood Donors (tests)	174
Pregnancy test	170
Vaginal fluid for trich	19
Ova and Parasites	373
F.O.B. (Ocult Blood)	8
C.S.F. Cell count	18
Alb.	7
Sugar	15
Protein	15
Gram Stain	4
Sperm Count	1
Alkaline Phosphates	10
Acid Phospates	3
Serum Protein	11
E.C.G.	51

Grand Total for 1972 = 10,846

PUBLIC HEALTH

Antenatal and Obstetrics

Hospital	2,465
Health Centres	<u>7,381</u>
Total	9,846

Deliveries

Hospital	1,657
Health Centres	<u>629</u>
Total	2,286

Analysis in Hospital:

Normal Deliveries

1413





B.B.A. (Born Before Arrival, Born en route)	18
Forceps	6
Vacuum Extraction	6
Twins x 16 (deliveries)	32
Triplets x 3 (deliveries)	9
Stillborn	26
Caesarian section	104
Toxemia of Pregnancy	4

#### Child Welfare

Hospital	23,560
Clinics	<u>71,877</u>
Total	95,437

3. To summarise briefly a year's activity in the R.F.M. Hospital is rather difficult. To give adequate coverage to the diversity of interests and many departmental involvements, I'm afraid would take many pages.

In most departments in spite of staffing problems, that seem to have plagued the hospitals continually, there was increased activity in most departments.

We have noted considerable increase in Health Centre or Clinic attendances, hitting an all time high of 128,257 attendances. This has also been the pattern of our hospital outpatients with 38,428 (close to 8,000 more than last year)

One of the most amazing yet very gratifying observations has been the increased interest in the Public Health field.

Both at the hospital and the Health Centres considerable emphasis has been placed upon this phase of the work. This has been stimulated by the appointment of Sister Juanita Moon, whose whole duty is to visit the clinics and assist the nurses in maintaining a higher standard of service. This is reflected in our Antenatal and Child Welfare statistics with over 32,000 more attendances this year than last year. It is possibly responsible to a great degree for the "boom" in the confinements and the maternity wards.

On April 29th, a very colourful, combined programme of Nurses Capping, Graduation and Promotion to Sisters was arranged. Dr. Bruce Taylor, the special speaker, gave an inspiring message.

The Chief Matron of Swaziland, Matron P. Mdziniso gave a challenging address to the graduates.

Chief Sister Tutor, Phyllis M. McNeil and Staff of the Nursing College presented the 1st year nurses and conducted the Capping Service.

Sister M. Makhubu, President of the Swaziland Nursing Association presented Epaulettes and Badges.

Two nurses were promoted to Sisters.

The Hon. Minister of Health, Dr. Allen Nxumalo graced us with his presence and spoke from her heart to a captivated audience.

In all it was a very memorable evening.

During the year our Visitors' Book records 155 entries. Many of these were illustrious people from the Church, State and various professions, particularly in the field of medicine. Indeed the R.F.M. Hospital has become recognised as a show place of mission hospitals.





ANNUAL MEDICAL AND PUBLIC HEALTH REPORT 1972  
GOOD SHEPHERD HOSPITAL - SITEKI - SWAZILAND

<u>BED CAPACITY:</u>	<u>1971</u>	<u>1972</u>
General wards	95	95
Private rooms	5	5
Total capacity	100	100

ADMISSIONS:

Full paying	149	89
Part paying	2899	2834
Total in-patients days	18796	22846

OPERATIONS:

Minor	495	533
Major	134	196

DELIVERIES:

X-RAY: Examinations	555	625
Used Films	682	791
Total No. of patients		497

DEATHS:

MEDICAL LEGAL AUTOPSIES	58	35
ASSAULT AND RAPE EXAMINATIONS	148	106
BLOOD ALCOHOL examinations	2	9
LABORATORY examinations		

Full blood counts: Hgb	612	712
RBC	2	7
ESR.	174	211
WBC.	49	67
DIFF.	109	117
Blood grouping	53	122
Crossmatching	57	135
Clotting time	5	3
Malaria smears	370	713
Routine urine	3700	4153
Stools/ova, Parasites	171	194
Pregnancy tests	87	111
Vag, fluid for sperm	32	27

GOOD SHEPHERD HOSPITAL CLINIC only

Full paying 1st attendance	418	(whole year)
Part paying " "	9184	"
Full paying subsequent att.	73	"
Part paying " "	755	"

OUT-CLINIC MLAULA

Part paying 1st attendance	1455	"
Part paying subsequent att.	93	"

ANTENATAL ATTENDANCE:

G.S.H. Clinic	973	"
Out-clinic Mlaula	364	"

IMMUNIZATIONS G.S.H. CLINIC:

D.P.T.	113	"
Polio	95	"
Cholera	344	"
Smallpox	313	"
Measles	194	"
BCG.	50	"



VENEREAL DISEASES:

SYPHILIS

GONORRHOEA

	<u>1971</u>	<u>1972</u>	<u>1971</u>	<u>1972</u>
G.S.H. clinic, Ist. att.	46	55	132	85
sub. att.	-	51	47	70
Mlaula Ist. att.	12	-	63	23
sub. att.	-	-	-	-

Note that the figures for 1972 are only till August 31st.

POINTS OF INTEREST

Personnel:

Dr. J. Mulder who worked here with great enthusiasm and dedication left for Holland on July 17 and returned in August in government service. Dr. E. Wijnen has taken his place here at G.S. Hospital.

Dr. Wileckowics, who started the G.S. Hospital in 1949, died after a long illness on March, 7, 1972. He is remembered by many people.

There is still a too great fluctuation in the Nursing Staff, both in Staff Nurses as well as in Nurse-Aides. The Nurse-aides receive a nine-months training and receive a Red Cross Certificate and Broock when they pass their examinations. Six Nurse-aides qualified this year.

Sr. E. Mulder joined the staff in December, 1972 after a successful exam. in Public Health Nursing and Health Education. She will be Acting Matron till July 1973, when Matron L. Koten is on leave.

Since Sept. 1972 the Government salary scale (Gardner-Brown) is used for the personnel.

Miscellaneous:

Electricity came to Siteki and the Hospital was connected in the beginning of November so we can profit by continuous day and night electricity supply.

A Toyota Landcruiser was officially handed over by Mr. Gould on behalf of the Board of Control of the Deferred Pay Interest Fund in December to be used as the Hospital Ambulance.

INTERGRATED HEALTH SERVICE

Chief Mkosini Dlamini has built a clinic in Ngcina and asked the Hospital to provide a staff nurse and to supervise the work. Thanks to a grant from the NRC. for furniture and equipment, work could start on December 1st, 1972.

A contract has been signed between the AAC. for Swaziland Collieries and the Hospital to supervise the clinic and the medical care for the employees at Mpaka and to initiate Public Health services. This has started on December 20th, 1972.

Via these clinics and the Public Health clinics we hope to be of a wider service in comprehensive health care to the people of the Lubombo area.

There is a very good co-operation with the T.B. Centre in Manzini, the Blood transfusion service and the Central Laboratory.





PUBLIC HEALTH ACTIVITIES FOR 1972  
Mother and Child Welfare Clinics and Health Education

PUBLIC HEALTH FOCUS (in schools, workshop, market) a) held every 2 weeks b) monthly clinic	Ante Natal Care		Under Five Clinic		D.P.T.	POLIO	SMALLPOX	B.C.G.	MEASLES	HEALTH EDUCATION TALKS	ATTENDANCES FOR TALKS
	1st Att.	Sub. Att.	1st Att.	Sub. Att.							
Kalanga - St. Paul Kalanga - Lutsango Women's workshop	22	68	61	540	209	214	21	26	45		
(a)											
(a)	36	89	92	796	289	301	55	24	75		
(a)	16	42	38	410	150	206	10	28	48		
(a)	36	82	79	657	189	259	109	61	47		
(a)	21	46	71	545	232	196	84	39	42		
(b)	28	39	109	490	245	281	92	94	48		
(a)	-	-	161	348							
St. Juliana (since August 72)											
Schools in Siteli and near the clinics											
Non scholars (on market)											
given in Hospital and clinics											
TOTALS	159	366	611	3786	1314	1457	1327	664	305	699	7924

Interest for preventive health care is growing in all the places where a start was made (April 71). Attendance fluctuates with the season but less marked than in 1971. Due to heavy rainfall in the beginning of 1972 and inadequate means of transport, it was often impossible to reach the clinics. A gift from OXFAM in July 72 of a Toyota Landcruiser has solved this problem. Health Education talks covered a large variety of topics, mainly geared towards practical implementation e.g. nutrition - demonstrations - knowledge about hygiene and disease - child care etc. This was done with the help of visual aides. The programme has been intensified and since January 1972 daily health talks are given in the hospital to the patients and waiting mothers. There is a good co-operation with other organisations e.g. Community Development, Lutsango Women's Organisation, Zondle, Sebenta. Promotion of toilet building was and is a main emphasis in co-operation with the Government. A show garden acc. to the Valley Trust system has been erected in front of the hospital. Since September 1972 Sebenta has started literacy courses in all clinics.





GOVERNMENT AND MISSION HOSPITALS AND CLINICS.

From 1972 a new system of recording in and out patients is being introduced into hospitals which will be analysed directly by the Central Statistical Office.

Two new tables are included in this Section, one giving attendances at clinics throughout Swaziland, the other showing industrial accidents.

R.1. GOVERNMENT AND MISSION HOSPITALS:  
CASES TREATED AND DEATHS 1967 - 1972.

Group Causes	Cases				Deaths			
	1969	1970 <sup>x</sup>	1971 <sup>x</sup>	1972	1969	1970	1971	1972
T.B.-Respiratory	900	1 367	1003	1 008	133	121.	106	93
All other forms	362	319	64	365	11	24	3	24
Early syphilis	672	514	729	242	-	-	-	-
All other syphilis	299	561	823	487	11	-	-	-
Gonococcal infection	2649	2 908	3072	931	-	-	1	-
Other venereal diseases	400	76	88	109	-	-	-	-
Bacillary dysentery	595	416	365	200	7	4	3	4
Amoebiasis	292	188	220	170	8	6	7	5
Whooping cough	618	523	1511	638	6	3	4	1
Measles and mumps	1890	2 100	1345	1 900	14	29	3	14
Bilharzia (vesical)	1079	1 056	915	439	1	-	1	-
Bilharzia (intestinal)	37	12	53	12	-	-	-	-
Tape worm	363	349	251	450	-	-	-	-
Ascariasis	210	1 047	1438	158	-	1	-	-
Other helminthic diseases	133	124	93	121	1	-	-	-
Dermatophytosis	163	239	148	22	-	-	-	-
Scabies	276	288	200	125	-	-	-	-
Malignant neoplasms	198	171	276	483	44	23	23	22
Pellagra	917	982	848	198	2	5	2	2
Kwashiorkor	806	691	608	330	45	44	35	19
Malnutrition unqualified	1292	1 728	1179	875	40	48	47	7
Asthma	527	789	1114	633	3	4	-	-
Inflammatory diseases of eye	1293	1 259	1650	624	-	-	-	-
Otitis media and mastoiditis	...	1 426	1381	708	...	-	-	-
Otitis externa	439	205	377	279	-	-	-	-
All other diseases of the eye	1081	1 117	752	621	1	-	-	-
Arterio-sclerotic and Degenerative heart disease	90	138	114	135	6	15	15	28
Other diseases of the heart	244	405	369	291	24	31	31	21
Hypertension and Heart diseases	596	719	1141	771	1	9	14	10
Respiratory Tract infections including Tonsillitis	4152	4 981	4748	4 226	-	6	2	-
Influenza	2521	4 600	2992	2 461	-	3	-	1
Lobar Pneumonia	276	328	583	613	4	9	11	21
Broncho-pneumonia	1012	1 190	1412	1 075	23	41	28	40
Acute bronchitis	3156	2 530	3203	2 357	3	5	5	-
Bronchitis chronic and unspecified	2027	1 889	2113	1 163	2	7	3	-
Dental caries	5798	8 671	9015	3 414	-	-	-	1





R.1. (Cont.) GOVERNMENT AND MISSION HOSPITALS:  
 CASES/TREATED' AND DEATHS 1967 - 1972.

Group causes	Cases				Deaths				
	1969	1970	1971	1972	1969	1970	1971	1972	
Gastritis and duodenitis	1 395	1 360	1382	558	10	8	3	-	
Gastro-enteritis (under 2 years)	4 438	5 004	6211	3 491	62	32	51	82	
Chronic enteritis and colitis	3 459	4 034	4065	2 318	32	43	42	63	
Disorders of menstruation	370	233	187	160	-	2	2	2	
Normal deliveries	1 832	2 071	3280	795	-	-	2	-	
Deliveries with complications	8 150	4973	4556	4 662	-	3	-	1	
Abortion	897	431	672	451	-	9	18	7	
Infections of skin and subcutaneous tissues	2 483	1 957	2691	1 590	3	3	-	2	
Rheumatism unqualified	1 452	1 064	1005	374	-	-	-	-	
Other diseases	22917	30514	39257	41817	287	277	341	309	
Total Diseases	85438	98636	110716	86011	787	817	804	813	
Accidents, poisoning & violence									
Fracture of skull	185	193	176	152	11	10	14	24	
Fracture of limbs	1 149	1441	1668	1 293	3	4	9	-	
Sprains and strains	985	1298	832	572	2	-	-	-	
Head injury (excluding fracture)	341	742	666	606	18	14	16	3	
Internal injury, chest, abdomen and pelvis	101	133	151	90	6	6	4	15	
Laceration and open wounds	2 979	3 170	3806	2 771	8	6	2	7	
Superficial injury constriction	1 320	1 174	805	711	1	-	-	-	
Burns	642	766	1029	591	12	13	13	13	
Other accidents	670	971	1076	917	11	15	15	11	
Total Accidents	8 372	9 888	10209	7 603	72	68	73	73	
Medical examinations etc.									
Examinations	3 980	9 849	4943	3 695	-	-	-	-	
Prophylactic injections:									
Small box vaccinations	1 524	3 115	1826	1 154	-	-	-	-	
Diphtheria	338	270	443	143	-	-	-	-	
Poliomyelitis	3 045	975	95	58	-	-	-	-	
Other	833	1 569	670	312	-	-	-	-	
Ante-Natal examinations	5 100	4 728	6709	4 881	-	-	-	-	
Attendants admitted as patients with sick children	2 560	1 711	3648	4 706	-	-	-	-	
Total Examinations	17380	22217	18334	14949	-	-	-	-	
GRAND TOTAL.	111,190	130,741	139,259	108,563	859	885	877	886	

Subsequent attendances and injections are excluded from the figures.  
 1970 and 1971 figures have been revised.





R.2. ATTENDANCES AT GOVERNMENT AND MISSION CLINICS: 1968-1972.

Clinics	1968		1969		1970		1971		1972	
	No. of Clinics	Total Attendances	No of Clinics	Total Attendances	No of Clinics	Total Attendances	No of Clinics	Total Attendances	No of Clinics	Total Attendances
Government Clinics:										
Hohho	4	35 733	4	31 358	4	37 819	5	52 908	5	59 191
Manzini	6	25 530	7	33 120	8	52 260	8	69 512	8	78 127
Shiselweni	7	50 430	7	62 726	7	84 557	9	123 066	9	14 188
Lubombo	4	25 585	4	25 289	5	46 569	6	62 495	6	55 045
Mission Clinics	18	63 513	18	63 779	19	88 412	26	118 801	26	145 175
Sidvokodvo Railway Clinic	1	11 132	1	9 272	1	10 659	1	12 148	1	15 016
Total	40	211 923	41	225 544	44	320 476	55	439 020	55	45 342

一	二	三	四	五	六	七	八	九	十
十一	十二	十三	十四	十五	十六	十七	十八	十九	二十
二十一	二十二	二十三	二十四	二十五	二十六	二十七	二十八	二十九	三十
三十一	三十二	三十三	三十四	三十五	三十六	三十七	三十八	三十九	四十
四十一	四十二	四十三	四十四	四十五	四十六	四十七	四十八	四十九	五十
五十一	五十二	五十三	五十四	五十五	五十六	五十七	五十八	五十九	六十
六十一	六十二	六十三	六十四	六十五	六十六	六十七	六十八	六十九	七十
七十一	七十二	七十三	七十四	七十五	七十六	七十七	七十八	七十九	八十
八十一	八十二	八十三	八十四	八十五	八十六	八十七	八十八	八十九	九十
九十一	九十二	九十三	九十四	九十五	九十六	九十七	九十八	九十九	一百



Total attendances of Governmen and Mission Clinics throughout the country for 1972 = 607,905.  
It will be noted that with the erection of more clinics the work load is reduced at the hospital outpatients sections.

R.3 HOSPITAL SERVICE IN GOVERNMENT AND SUBSIDISED MISSION HOSPITALS 1968-1972

Number of:	1968	1969	1970	1971	1972	1972				
						Hhohho	Manzini	Shiselweni	Lubombo	
Hospitals										
Beds	1 222	•1 265	1 394	1 400	1 454	2 404	4 763	2 187	1 100	1
Doctors	19	25	27	27	27	10	11	5	7	7
Nurses	246	•••	257	313	266	120	43	96	7	7
Admissions	25 704	23 137	25 609	29 453	29 317	8 998	8 141	9 040	3 138	3
Operations	3 850	4 567	4 955	5 708	7 417	2 612	1 824	2 252	729	77
Deaths	1 073	859	879	877	886	253	275	281		
Outpatients' (000 attendances)	1 440	1 196	1 419	1 896	942	367	174	329	72	

Nurses include the following categories:- Matrons, Nursing Sisters and Staff Nurses.

In addition there are 2 unsubsidisd hospitals with a total of 93 beds.

Includes subsequent attendances.



R.4. MEDICAL PRACTITIONERS RESIDENT IN SWAZILAND, 31ST DECEMBER, 1972.

Number of Doctors					
	Mbabane	Manzini	Company Town	Other Places	Total
Employed by Government	10	4	-	6	20
Industry	-	-	12	-	12
Missions	1	5	-	2	8
In private Practice	5	7	-	-	12
Total	16	16	12	8	52

1. Not all Practitioners are in full-time practice
2. Including qualified medical practitioners whose work is mainly administration in nature.

X RAYS Taken 1972.

Mbabane Government Hospital	9,571
Hlatikulu Government Hospital	5,894
Piggs Peak Government Hospital	359

ATTENDANCES AND DEATHS AT GOVERNMENT HOSPITALS 1972.

HOSPITAL	INPATIENTS		OUTPATIENTS	
	Cases	Deaths	Cases	Deaths
Mbabane	8031	228	23718	-
Hlatikulu	6505	281	21759	-
Mankayane	2279	14	3948	-
Piggs Peak	967	25	10671	-





HOSPITAL	INPATIENTS		OUTPATIENTS	
	Cases	Deaths	Cases	Deaths
Nhlangano	2535	-	9889	-
TOTAL	20217	548	69985	-

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1

1.

(Casual)





# HEADQUARTERS.

	C. LAB.	INSPECTORATE	P.H.U. MBA.	B.T.S.	C.M.S.	T.B. CONTROL	P.H.U. MZ.	
1. Perm. Secty.								Blood Transfusion Service
1. D.M.S.			1				1	Matrons
1. S.M.O.H.						1	2	Medical Officers
1. Princepal								Nursing Sisters
1. Excutive Officer GRDI		5						Health Inspector
1. S.H.I.			16	1		3		Staff Nurses
1. Chief Matron								Aid Assistant
1. Principal Accounts			2				1	Clerical Officers
1. Accountant							1	Senior Microscopists
1. Senior Accountant	4						2	Microscopists
1. Personal Sect. Gd.I							3	Senior Health Assistant
1. Acc. Officers G8-7		5					9	Health Assistants
1. Clerical Officers G8/7							1	Senior Orderlies
1. Pers. Sect. GRD.II	1		3				1	Orderlies
1. Typists GRD.I G8-7							1	Telephonists
1. Telephone Opera. E3					2			Pharmacists
1. Night Watchman E3					1			Assitant Accounts
1. Messengers E3					2		1	Storeman
1. Private Secretary								Wardmaid
								Housemaid
		2	2		4	4		Drivers
								Senior Laundresses
							1	Laundry
	1					1		Laboratories Technicians
	4					5		Laboratories Assitant
								Seamstresses
								Night Watchman
							1	Groundsman
							1	Messengers

MINISTRY OF HEALTH

STAFF DISTRIBUTION MS-AT 1972/73













